Technical Report 742

The Role of Learning Strategies in Second Language Acquisition: Strategy Use by Students of English

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This paper describes a study of learning strategies used by high school students who were effective or ineffective in learning English as a second language. "Think aloud" data were collected during listening tasks that varied in familiarity and difficulty. Failure of students to appear for sessions was such that results were analyzed only from five effective listeners who attended three sessions and from three ineffective listeners who attended one session. The primary results were that effective listeners used self-monitoring and

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elaboration strategies significantly more often than did ineffective listeners during session one. Also, effective listeners were found to use the inferencing strategy twice as often as ineffective listeners, although this effect failed to reach significance because of the small sample size. However, effective listeners were found to significantly increase their use of imagery and elaboration from session one to session three. Altogether, these results are consistent with the theory suggesting that the use of strategies, especially metacognitive ones, is a major distinguishing characteristic of effective listeners.

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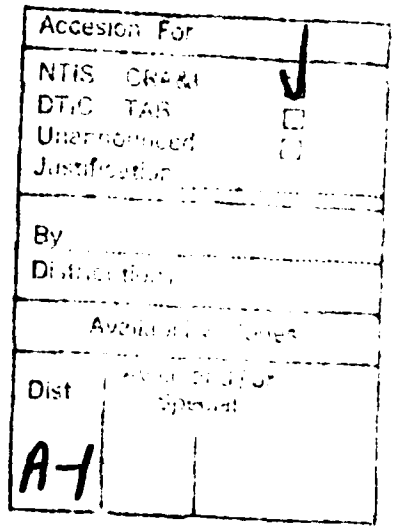

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FOREWORD

The Instructional Technology Systems Technical Area of the Army Research Institute (ARI) has conducted research in the area of second language acquisition for several years. This research serves the Army's special interest in discovering the best methods for improving fluency in English among the many soldiers whose first language is not English. This report is the last in a series of three describing a project to discover those strategies that successful learners naturally employ in acquiring a second language. The ultimate goal of the project is a more effective training program that incorporates instruction in the application of those successful strategies.

This project was conducted as part of Program Task 3.1.1, Improving Job Skills Education for Soldiers, and under the authority of the Letter of Agreement entitled "Coordination of Efforts on the Job Skills Education Program (JSEP), Evaluation of the Army's Basic Skills Education Program (BSEP), and the Job Skills Education Program Academic Competencies Testing (JSEPACT)" (effective date, 20 April 1984). Robert Ayers, Educational Program Administrator in the Army's Education Division, was briefed by Dr. Mark Sabol, ARI Research Psychologist, on the research methodology, results, and possible applications. The proposed applications of this project are within the Army's ongoing training programs in English as a second language. By identifying the learning strategies that successful students of English employ spontaneously, the project makes possible an increase in the effectiveness of such training programs through the addition, where deemed appropriate, of explicit training in the application of those strategies.

EDGAR M. JOHNSON
Technical Director

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THE ROLE OF LEARNING STRATEGIES IN SECOND LANGUAGE ACQUISITION: STRATEGY USE BY STUDENTS OF ENGLISH

EXECUTIVE SUMMARY

Requirement:

To facilitate gains in fluency in English among recruits for whom English is a second language.

Procedure:

On the basis of an earlier extensive literature review and the subsequent development of a model of the cognitive psychology of listening comprehension, an empirical study of the use of learning strategies by high school students learning English was designed and carried out. This study employed the "think aloud" method as a means of determining the strategies that were being used by the students during several listening comprehension tasks. Students who had previously been identified by their teachers as effective learners were then compared to those identified as ineffective learners in terms of the learning strategies they spontaneously used and how often they used them.

Findings:

Effective learners were found to differ from ineffective learner in their use of the learning strategies referred to as "self-monitoring," "elaboration," and "inferencing"; effective learners used these strategies more often. In addition, effective learners were found to respond to task difficulty by increasing their use of the "elaboration" and "imagery" strategies over several sessions.

Utilization of Findings:

As predicted, the spontaneous use of learning strategies, especially those known as "metacognitive" strategies, was found to be a major distinguishing characteristic of effective learners during a listening comprehension task. This fact suggests that ineffective learners could be helped in their acquisition of a second language by the simple procedure of instructing them in the use of such strategies. This prediction should now be empirically tested. The ultimate utilization of this work would be the development of an improved training program that begins with instruction in these metacognitive strategies to teach English as a second language.

THE ROLE OF LEARNING STRATEGIES IN SECOND LANGUAGE ACQUISITION: STRATEGY USE BY STUDENTS OF ENGLISH

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THE ROLE OF LEARNING STRATEGIES IN SECOND LANGUAGE ACQUISITION: STRATEGY USE BY STUDENTS OF ENGLISH

The purpose of this report is to present the findings from a research study that was designed to analyze learning strategies used in listening comprehension while acquiring English as a second language (ESL). High school students nominated by teachers as effective and ineffective listeners were presented listening comprehension tasks on three occasions over a series of weeks. The study focused on the differences in strategy use reported on listening comprehension tasks by effective and ineffective learners and on the stability of strategy use over time. Additional questions that were addressed concern listening comprehension strategies in using prior knowledge to enhance learning, in dealing with variations in text difficulty, in maintaining attentional processes, and in interpreting information into meaningful segments. The study methodology employed "think aloud" interviews to determine the types of strategies students use.

INTRODUCTION

Research and theory in second language acquisition strongly suggest that good language learners use a variety of strategies to assist them in gaining command over new language skills. Learning strategies are "behaviors and thoughts that a learner engages in during learning and that are intended to influence the learner's encoding process" (Weinstein & Mayer, 1986, p. 315). Second language learners who use active and varied strategies to assist their learning tend to be more effective learners than those who do not use strategies or who rely upon simple rote repetition (O'Malley, Chamot, Stewner-Manzanares, Kupper, & Russo, 1985a, Politzer & McGroarty, 1985; Rubin, 1975; Wenden, 1985). Although some learners are adept at devising strategies to assist second language acquisition, many others tend to be ineffective at developing strategies and consequently may encounter difficulties in learning the new language. However, learners can be trained to apply strategies for effective second language learning. For instance, strategy training has led to improved recall of vocabulary (Cohen & Aphek, 1981) and improved listening and speaking skills (O'Malley, Chamot, Stewner-Manzanares, Russo, & Kupper, 1985b). Nevertheless, individuals may not always adopt new strategies if they already have had prior success with simpler strategies or if their training has not been sufficient to encourage transfer (O'Malley et al., 1985b).

One of the major difficulties in performing research with learning strategies in second language acquisition is that until recently there has been no adequate theory to describe the role of cognition in language learning, nor any theoretical description indicating what influence learning strategies play on memory processes in general (O'Malley, Chamot, & Walker, 1986). In the absence of this kind of information, studies of learning strategies in second language acquisition can do little more than introduce new strategy classification schemes or descriptions of learners, tasks, and occasions to which strategies are applied. Furthermore, strategy training will be limited to demonstrations of new types of learners and tasks with which training may or may not be effective. The more productive work of building a systematic

understanding of the role of strategies in second language acquisition will go unattended.

Selective Review of Cognitive Theory

Recent efforts to describe both second language acquisition and learning strategies within the cognitive theory proposed by Anderson (1981; 1983; 1985) have provided the necessary theoretical foundation to guide further research in this area (O'Malley et al., 1986). Anderson suggests that language can best be understood as a complex cognitive skill and that mental processes involved in language parallel the processes used with other cognitive skills both in memory representation and in learning. In the following sections, we present a brief overview of cognitive theory as it relates to memory representation, second language acquisition, and listening comprehension, with particular reference to Anderson's views. We then use the theory to indicate the role of learning strategies in enhancing second language acquisition.

Declarative vs. Procedural Knowledge

In describing memory processes, Anderson distinguishes between declarative knowledge, or what we know "about," and procedural knowledge, or what we know "how to do." Examples of things we know "about" include the definitions of words, facts, and rules, including our memory for images and sequences of events. This type of knowledge is represented in long term memory in terms of abstract meaning rather than precisely stored replication of events or specific language texts. The concepts on which meaning is based are represented in memory as nodes that are associated with other nodes through connecting associations or links. Nodes may be connected through simple paired associations or through more complicated representations such as propositions (associations representing arguments in extended text) and schema (interconnected networks depicting complex concepts). Meaning is activated through spreading activation as nodes in long-term memory are stimulated by information introduced into short-term memory. The activation in long-term memory spreads to other concepts in proportion to their strength of prior association with the initial concept.

Anderson (1983; 1985) indicates that procedural knowledge underlies our ability to apply knowledge of rules to solve a problem or to understand and generate language. Whereas declarative knowledge or factual information may be acquired quickly, procedural knowledge such as language skills are acquired gradually and only with extensive opportunities for practice. Procedural knowledge is represented in memory as production systems, which consist of a "condition" and an "action." The condition contains a clause or set of clauses that express a goal statement which is preceded by IF, and the action contains a clause or set of clauses preceded by THEN. Anderson (1980) suggests the following production to represent the rules for pluralization:

> IF the goal is to generate a plural of a noun,
> and the noun ends in a hard consonant,
> THEN generate the noun +/s/.

As goals are satisfied or change for the learner, the IF clause will match different sets of stored conditions and the learner will execute different sets of actions. The rules an individual follows in acquiring a second language may be linguistic rules, rules for communicative competence, or idiosyncratic rules that emerge out of prior linguistic knowledge or experience in trying to use the new language. Anderson (1980) has shown how production systems can be used to describe grammatical competence, and O'Malley et al. (1986) have used the approach to represent communicative competence, including sociolinguistic competence, strategic competence, and discourse competence.

Stages of Acquisition

Condition-action pairs (or productions) can initially be represented in declarative form, and gradually, through practice, can be compiled as production systems and fine-tuned to the point of automatic execution. Anderson identifies three stages that describe the process by which a complex cognitive skill such as language is acquired: (a) a cognitive stage, in which learning is deliberate, rule-based, and often error-laden; (b) an associative stage, in which actions are executed more rapidly and errors begin to drop out; and (c) an autonomous stage, where actions are performed more fluidly and where the original rule governing the performance may no longer be retained. Thus, as we become more proficient in a second language, we are able to comprehend and to produce utterances with little difficulty, although skilled performance improves gradually. O'Malley et al. (1986) suggest that listeners process extended oral text by alternating between skills characteristic of different stages depending on the difficulty of specific portions of the text.

Listening Comprehension Processes

Anderson (1983; 1985) has described three processes involved in listening comprehension: perceptual processing, parsing, and utilization. In perceptual processing, the acoustic message is encoded as attentional processes focus on the oral text. Attentional processes are limited in scope (that is, in the number of complex messages that can be understood at a time), and in capacity (that is, in the amount of information that can be processed). Individuals typically have difficulty in performing two complex tasks at the same time, especially if both require full attention. The demands on attention are alleviated with well-practiced activities such as typing, driving a car, and listening in one's native language. These activities involve automatic processing, while less practiced activities require intensive attention and controlled processing.

In parsing, words and messages are transformed into meaningful mental representations. The size of the unit or the segment (or "chunk") of information processed will depend upon the learner's knowledge of the language, general knowledge of the topic, and how the information is presented (Richards, 1983). Presumably, with more knowledgeable learners and more organized or clearer texts, the size of the segment will be larger. The principal clue for segmentation in listening comprehension is meaning, which may be presented by syntax, word order, key words, inflections, and pauses (Anderson 1983; 1985). Individuals may have difficulty in understanding language spoken at typical conversational rates by native speakers if they are unfamiliar with

the rules for segmentation, even though they may understand individual words spoken more slowly. Complex texts may be especially difficult because they require concatenation or combining of parsed segments in order to be understood.

The third process, utilization, consists of relating a mental representation of the text meaning to existing knowledge, which is stimulated through spreading activation. If the individual has no associations for the new information, the information will be difficult to retain because there are no existing memory linkages with which it can be associated.

Learning Strategies

Although Anderson does not explicitly describe learning strategies, a number of the mental processes he discusses serve to explain how strategies are represented, how they are learned, and how they influence acquisition of a complex cognitive skill such as language. O'Malley et al. (1986) suggest that learning strategies can be thought of as declarative knowledge that may become procedural knowledge through practice. Learning strategies are conscious and deliberate if they are in the cognitive and associative stages of learning but may not be "strategic" in the autonomous stage since the strategies are applied automatically and perhaps without awareness (Rabinowitz & Chi, in press). As with other complex cognitive skills, strategies that have become automatic are acquired only with extensive opportunities for application. For second language learners working on a listening comprehension task, new strategies may be difficult to learn because they place heavy demands on attentional processes, and attention during listening comprehension is so consumed with segmentation and parsing.

Two types of learning strategies that second language learners regularly report using are metacognitive strategies and cognitive strategies (O'Malley et al., 1985a; Wenden, 1985). Metacognitive strategies involve knowing about learning and controlling learning through planning, monitoring, and evaluating. In Anderson's theory (1983, 1985), control over cognition is exercised through procedural knowledge as represented in production systems. Production systems by definition have a goal statement as the condition (IF) preceding an action (THEN), and therefore provide direction in planning future thoughts or behavior. The significance of goals is suggested in the distinction between top-down processing, which is goal directed and capitalizes on known information, and bottom-up processing, which starts with features of the input. Anderson describes metacognitive activities such as selective attention, or attending to special aspects of the input, and monitoring, or analyzing ongoing comprehension related to the task demands. Monitoring has been described elsewhere as the key process that distinguishes good learners from poor learners (Nisbet & Shucksmith, 1986). Metacognitive strategies are generally considered to be applicable across a variety of tasks, whereas cognitive strategies may be more tailored to specific learning activities.

The principal cognitive strategy that Anderson describes is elaboration, in which individuals relate new information to information that has previously been stored in long-term memory, or analyze and relate meaningfully connected portions of the input. Elaborations are powerful aids to recall that exert their influence through spreading activation by enabling reconstruction of the

original text from known concepts and by directing attention toward concepts that are part of the study context. Elaborations can be active during initial learning as well as at recall. Elaborated structures are the foundation for other strategies such as deduction (rule applications), transfer (for example, of linguistic information), and inferencing (guessing at meaning based on the context or prior knowledge).

A third type of strategy, social/affective strategies, involves either social interaction or affective control over learning. Examples are when students report using peer cooperation to achieve a learning goal, question the teacher for clarification, or direct their own attention to positive thoughts anticipating successful task performance.

Research Questions

Previous studies reporting on learning strategies in second language acquisition have not had a theoretical foundation to guide the direction of research or to suggest hypotheses about the learning process. The present study of strategies used in listening comprehension will focus on the mental processes used in listening comprehension (perceptual processing, parsing, and utilization) and the general strategies that learners may apply across tasks (i.e., metacognitive strategies) or that apply to different tasks (cognitive strategies). Within this framework, we are particularly interested in research questions that concern processing strategies which vary depending on the characteristics of the learner (effective vs. ineffective listeners), or the characteristics of the materials (familiar vs. unfamiliar materials). The following research questions addressed in the study relate to specific mental processes and to specific types of strategies in listening comprehension.

- Perceptual Processing

  Which strategies are used in perceptual processing?

  When and why do listeners reach a point of saturation where they are unable to attend further and shift their attention away from the task? Are there differences in attention depending on characteristics of the listeners and the materials?

- Parsing

  Which strategies are used in the parsing stage of listening comprehension?

  What is the basis for parsing in second language listening comprehension? What cues do listeners look for in deriving meaning or in inferencing? How is the unit of meaning determined and how large is a chunk of information? Does the basis for parsing or the size of the chunk differ depending on characteristics of the learner or the materials?

- Utilization

  Which strategies are used in utilization?

  How do individuals use prior knowledge in assisting their comprehension? Is there evidence of elaboration at the time of recall as well as at the time of listening? Does use of prior knowledge differ depending on characteristics of the learner or the materials?

  Do individuals use prior knowledge to infer meaning of portions of a text they do not understand or have forgotten?

- General Strategies

  Are there general strategies that are used across tasks? Are these metacognitive or cognitive strategies?

  What role do control processes play in listening comprehension? Does monitoring differentiate effective from ineffective listeners? Do listeners use monitoring to adjust strategies depending on their progress?

  Do individuals recognize maladaptive strategies and change them?

METHODOLOGY

The overall approach in this study was to address the research questions identified from the literature review by analyzing think aloud protocols collected on effective and ineffective listeners. Think aloud protocols are verbal report data obtained from individuals who have been asked to describe what they are thinking concurrent with the performance of a task which has been momentarily interrupted (Ericsson & Simon, 1980; Garner, 1984). Think aloud procedures encourage free recall of thought processes and usually limit the number and type of directed probes. The advantage of concurrent reports compared to retrospective reports is that mental processing during task performance takes place in short-term memory, and information in short-term memory often becomes inaccessible or is forgotten once the task has been completed. The major limitation of think aloud procedures is that the person is required to interrupt an ongoing activity and therefore to interrupt the continuity of thought (Bereiter & Bird, 1985). Pilot testing of the procedures suggested a second limitation, that think aloud data are sometimes limited to a small number of strategies in contrast to data obtained from probed interviews or questionnaires, despite the fact that they tend to be richer in detail. Because of this limitation, the procedures were modified to include occasional probes.

Subjects

The subjects were 11 high school age students enrolled in ESL classes in two Northern Virginia public schools during the Spring 1986 semester. All students were identified by the school district as being at the intermediate level of English proficiency. (The school district defines intermediate

proficiency as students with limited proficiency in understanding and speaking English, and little or no skill in reading and writing English.) All participating students were from Spanish language countries in Central or South America.

Students were nominated for participation in the study by their ESL teachers. Although the intent of the study was to gather data from only 10 students (5 effective and 5 ineffective language learners), the ESL teachers recommended that the initial pool of students nominated should be much larger, given that there is generally attrition from the ESL program due to students moving or dropping out of school. Therefore, teachers at each of two participating schools were asked to nominate a total of 5 effective and 5 ineffective language learners, making for a selection pool of 20 students. Of these 20, only 11 eventually participated in at least one data collection session of the study.

Instruments

There were four data collection instruments used in this study: Session One Interviewer Guide (Appendix A), Session Two Interviewer Guide (Appendix B), Session Three Interviewer Guide (Appendix C) and Session Four Interviewer Guide (Appendix D). These guides were all similar in nature: each contained the script of the three listening activities the students would hear in the session. The interviewer guides for all four sessions also contained the questions the interviewer asked students concerning mental processes the student used to understand the English used in the activity. The student was given a separate workbook containing an introduction to each activity, as well as several comprehension questions he or she would be expected to answer when the listening activity concluded.

Procedures

Procedures were divided into three sections: student selection, student training, and actual data collection.

Student Selection. Criteria for student nomination were determined in a meeting of all 18 ESL teachers of the schools involved in the study. While general school performance was considered important in classifying a student as an effective or ineffective learner, teachers felt that, because the major focus of this study was on listening comprehension, their nomination of students should focus primarily on effective and ineffective listeners. To this end, they identified criteria that they felt could be used to differentiate good from poor listeners and used these criteria as the basis for their student nominations. Behaviors of good listeners identified by teachers were as follows:

- attentiveness in class (ability to direct and maintain focus of attention);
- ability to follow oral directions without asking for repetition or clarification (from either the teacher or another student);

- ability/willingness to comprehend the general meaning of a difficult listening passage (getting the "gist");

- ability to respond appropriately in a conversational situation; and

- ability/willingness to guess at the meaning of unfamiliar words and phrases.

As stated above, teachers nominated 20 students in all to participate in the study. Permission slips were obtained from the parents and guardians of all nominated students. Then students were invited to an initial meeting where the purposes and activities of the study were explained. Of the 20 students initially nominated, 11 eventually participated in at least one data collection session (8 effective listeners and 3 ineffective). This report presents the findings on the 5 effective listeners who attended the greatest number of sessions and all 3 ineffective listeners.

Validity of Teacher Judgments. As noted above, teachers were asked to nominate effective and ineffective listeners for participation in the study. The criteria teachers used were discussed and agreed to in a meeting of selected district teachers of ESL students. Once the students had been nominated, data were collected from the school district to determine if the effective listeners differed systematically from ineffective listeners on variables other than teacher judgment. Complete data were available from the school district on the participating students for three tests: the MORE 3, a locally developed third grade reading test that measured areas such as the student's ability to identify the main idea and make inferences; the ABLE, a reading test for adults which assesses functional vocabulary and yields a grade level equivalent score; and the SRA, a reading test at the fourth/fifth grade level, also yielding a grade equivalent score.

Comparisons of mean scores for effective and ineffective listeners on these three tests were not statistically significant at the .05 level, as shown in Table 1. Nevertheless, the scores for effective listeners were consistently higher than those for ineffective listeners. A *t*-test that assumes unequal variances was used in the analysis because of the unequal *n*s. This test uses the smaller of the *n*s in the two groups to obtain the degrees of freedom and thus yields a conservative estimate of the group differences. Thus, with a larger sample of students, these differences could conceivably have been significant. The teachers' judgments of listening effectiveness, therefore, may have been based in part on reading or vocabulary skills in addition to their knowledge of student listening skills observed in class.

Student Training. Because data were to be collected by asking students to "think aloud" about how they listened, it was essential to give students: (a) a good understanding of what "thinking aloud" meant, and (b) extensive practice in "thinking aloud" prior to actual data collection. An hour-long training session was designed to train students in the Think Aloud technique; all students participating in the study received this training.

The training involved three stages conducted completely in Spanish and one final stage using English materials. The first three stages were: word association, writing, and playing a Think Aloud game. In the word association stage, students were asked to write down the first word that came into their

Table 1

Comparisons of Mean Test Scores for Effective and Ineffective Listeners

Test	Student	Effective (n = 5)	Ineffective (n = 3)	t (df = 2)
MORE 3	1	64	44	2.3 NS
(% correct)	2	84	72	
	3	96	44	
	4	88		
	5	64		
	Mean	79.2	53.3	
	St. Dev.	14.5	16.2	
ABLE	1	4.7	3.9	2.0 NS
(grade	2	7.8	3.4	
equivalent)	3	5.8	3.4	
	4	4.7		
	5	3.0		
	Mean	5.2	3.6	
	St. Dev.	1.8	0.3	
SRA	1	3.1	2.6	1.2 NS
(grade	2	2.9	3.6	
equivalent)	3	5.4	2.2	
	4	3.3		
	5	3.1		
	Mean	3.6	2.8	
	St. Dev.	1.0	0.7	

minds when given an oral prompt (e.g., running). The purpose of this stage was to start students focusing on what went through their minds. In the second stage, students were asked to extend this concept to include a larger piece of their mental activity; they were given 1 minute and told to write as much as they could of the thoughts that flowed through their minds. Discussion followed each of these stages. Students were asked to examine the nature of the thoughts they had: had their thoughts contained visuals? sounds? emotions? memories? Had any of their thoughts surprised them?

In the third stage of the training (conducted still in Spanish), students played a board game where, for the first time, they were asked to say aloud what they were thinking. The game was build around questions in six subject areas: history, math, logic, science, geography, and culture. Students landed on a square designating one of these subject areas, drew a multiple choice question, and "thought aloud" as they attempted to answer the question. (See Appendix E for a list of the questions used in the board game.) Training was conducted in groups of 2-4 students, so that teams could be formed. Scoring of student answers was done by the other students in the training and focused primarily on the completeness of the student's Think Aloud; getting the

correct answer was not emphasized. In this way, students were reinforced for producing as completely as possible the thoughts flowing through their minds.

In the final stage of the training, the concept of thinking aloud was applied to English materials. Students were given an introduction sheet to an upcoming listening passage. They were asked to say aloud what thoughts the introduction evoked. Then they listened to a passage containing eight pauses. After each pause, one student was asked to say aloud how they had made sense of what they had heard: whether there were unfamiliar words, what they had not understood, what they had figured out, whether images, sounds, or memories had occurred to them as they listened. They could think aloud in Spanish or English, whichever made it easier for them to capture their thoughts aloud. They were expressly told that this stage of the training paralleled what they would be expected to do in the actual data collection sessions. The training session ended with students making appointments to participate in the first data collection session.

Data Collection Sessions. Data collection sessions were conducted with students individually and were tape recorded for ease of later analysis. Interviewers were not informed which students had been designated effective listeners and which had been designated ineffective listeners. Sessions were conducted at roughly 2 week intervals. The majority of students completed only three of the four data collection sessions (reasons for this are discussed further below). A typical data collection session contained three steps: warm-up, transition, and verbal report. Each step is described below.

- Warm-up. The warm-up was designed to "break the ice" between student and interviewer, as well as to gather general background data about the student. Information was obtained in this warm-up about where the student was from, how long he or she had been in the United States, whether or not the student had previously studied English, and the extent of education the student had received in his or her home country. (See Appendix A-D for the specific questions asked in the warm-up stage of each data collection session.)

- Transition. The transition stage of each session was designed to reacquaint the student with Think Aloud technique and to give him or her an opportunity to practice it prior to working with English materials. The transition typically involved a math or logic problem stated in Spanish. The student read the problem and "thought aloud" while working to its solution. The interviewer then asked the student to evaluate their own Think Aloud for completeness. In other words, did the student feel that what they said aloud captured well the thoughts they had had while solving the problem?

- Verbal Report Stage. Once the student had had an opportunity to practice thinking aloud, actual work with English materials began. Students were presented with three listening activities per session, selected from the following types of listening activities: a history lecture, a science experiment, a science lecture, a short story, and taking a dictation. With the exception of one lecture, each listening passage contained several pauses, where the interviewer stopped the tape and asked the student to relate as much as they could about their thoughts while listening. Students were permitted to think aloud in

either English or Spanish, whichever made it easier for them to relate their thoughts. Typically, students chose to speak in Spanish, with only a few remarks being made in English. Likewise, the majority of the interviewer's comments and questions were in Spanish.

Appendices A-D contain the Interviewer Guides for each of the four sessions. Each guide contains the script the interviewer used to introduce each activity, an unabridged script of each listening passage indicating where pauses occurred for the student to think aloud, and the comprehension questions the students were expected to answer after listening. Additionally, the guides contain both general and specific probes for the interviewer to ask the student. A general probe was a question such as: "What are you thinking?" or "What didn't you understand in this lecture?" Specific probes focused on aspects of a particular section of a lecture, such as difficult vocabulary in that section. A specific probe might be a question such as: "Did you hear the word platform in this lecture? What did you think when you heard it, can you remember?"

Data collection sessions lasted from approximately 1 to 1-1/2 hours. At the end of the first three sessions, the next session was scheduled. On the day prior to a scheduled appointment, the interviewer called the student's home to remind him or her of the upcoming session. Nevertheless, there were many scheduling problems and many missed appointments. The majority of the students had jobs after school and on the weekends; most of the male participants were also involved in soccer, which met immediately after school and frequently interfered with their attending the data collection session for the study. As a result, only three of the ineffective listeners nominated for the study actually participated, and they only attended the first session. Eight of the ten effective listeners participated to varying degrees: only one attended all four sessions, three only completed two sessions, and four completed three sessions. Therefore, in the following section, data analysis, data are presented only on eight students: the five effective nominees who completed at least three sessions and all three ineffective nominees, who completed only the first session. For this reason, comparisons between ineffective and effective listeners are presented for the first session only. Because only one student attended session four, no data are presented relative to this session.

Data Analysis Plan

The data analysis plan initially proposed was similar to that used with interviews in the prior ESL study conducted by O'Malley et al. (1985a). In that study, each data collection session was tape recorded for ease of later analysis, which involved listening to the tapes and extracting incidences of strategy use described by students. Verbatim transcripts were not necessary.

However, the think aloud data generated by students in the present study was so rich and complex that the original abbreviated method of extracting incidences of strategy use was not possible. Instead, verbatim transcripts of the data collection sessions were made, excluding only those comments made by either the student or the interviewer that were not directly relevant to the listening task under study. These comments, many of which were conversational

in nature, were merely summarized on the transcript (i.e., "student talked about his plans for college").

Because of the additional time required to prepare verbatim transcripts, only six of the nine listening tasks presented to the students were eventually transcribed (all three tasks from Session 1, one task from Session 2, and two tasks from Session 3).

Developing a Standard for Coding. The verbatim transcripts were coded for incidences of strategy use by students. As a basis for coding, two members of the research team who had worked on the prior ESL study independently coded two "test" transcripts, then compared the results of their coding. Agreement as to how the students' "think alouds" reflected strategy use was quite high. On the first transcript, each coder identified 17 incidences of possible strategy use, 13 of which they had coded with the same strategy name. Two of the remaining 4 incidences were marked by both coders with a question mark (to indicate that they felt some strategy was being used but were unsure of how to code it), and the other two incidences were coded differently. Discussion of these four incidences resulted in not coding the two uncertainties (due to insufficient detail being present to make a determination as the strategy being used), and agreement upon the coding of the other two, following examination and clarification of the working definitions of the strategies under question.

The second transcript's coding showed agreement on 34 out of 38 strategy incidences identified by the two coders. The four incidences in disagreement consisted of two uncertainties and two incidences identical to those which occurred in coding the first transcript. In order to resolve conclusively all areas of disagreement, extensive discussions were held involving the two coders and the principal investigator.

Coding of the Transcripts. The remaining 34 transcripts were then coded by one of the test coders against the standards developed through the discussion described above. The coding consisted of underlining the key phrases in the students' think alouds that indicated use of a strategy and writing the strategy name alongside the text. This method is illustrated in Figure 1, which presents a portion of one transcript and the coding it received. All areas of uncertainty as to coding (whether due to insufficient detail provided by the student or to indecision about the parameters of strategy definitions) were marked with a question mark. Final decisions regarding how to code these uncertainties (n=68) were made through discussion with the other test coder, other members of the research team, and/or the principal investigator. Twelve of these 68 were not coded because insufficient information was available in the protocol to make a determination as to the strategy being used. The total number of strategy incidences considered for coding was 887 (of these, 875 were tallied; 12 were not). Thus, the percentage of uncertainties across the 34 transcripts was 7.7 (68 out of 887).

Reliability. Coder reliability was determined prior to tallying incidences of strategy use by effective and ineffective listeners and analyzing the results. Twelve of the 34 transcripts were examined independently by the second test coder for accuracy and completeness of coding. Excluding incidences of uncertainty which had been deliberately left to group discussion, the agreement between these two coders was 96 percent (478 strategies agreed

Figure 1

Method of Coding Student Think Aloud Transcripts

Segment of the Captain Cook listening passage about which the student is thinking aloud:

> Now you're going to hear about his explorations. He made three major voyages, or trips. In his first voyage, he sailed from England in the ship Endeavor, across the Atlantic Ocean, and around Cape Horn, which is at the very tip of South America. This was a very dangerous area to go around because of the cold weather. Many people aboard the Endeavor died during the trip.

Transcript of the Interview:

I: Okay, did you hear the word VOYAGE?
S: No.
I: Okay. Do you know what it means?
S: No.
I: Were you daydreaming?
S: Daydreaming?
I: Daydreaming, pensando en otra cosa.
S: Oh. Yeah, I was looking at that thing, but then I got into the story.
I: You did get into the story. What was it about?

S: It was about that they went to the South Pole in the ice. You know, I think I heard about it. Because in HILT A Social Studies, I heard about a man who went through the ice, and you know, the jeeps couldn't stay and many people, you know, many of his men died, [But I'm still waiting to see the end.] → Self-management

} — Elaboration

I: You were thinking about the South Pole and the jeeps.
S: Yeah. You know, I thinking about, I was really confused but then I remembered that in the south, no, that in the North Pole and the South Pole there is cold. [And I said, how is it going to be cold in the South Pole?] But then I remembered that it can be.

— Elaboration

↳ Self-monitoring (message)

(Student #4, Male, Session III)

upon out of 499). All areas of disagreement were discussed and a final determination made as to how these incidences would be coded. Based on these discussions, the remaining 22 transcripts were re-examined by the original coder and adjustments were made where necessary so that coding remained consistent across the entire pool of transcripts.

Tallying Strategies. Once the reliability of coding was satisfactorily established, tallying of incidences of strategy use was completed. These results are presented in the next section of this report, along with a qualitative examination of the data provided by students in their think alouds.

RESULTS

Two aspects of the data were of primary interest in the analysis: the number of learning strategies used by ineffective and effective learners by task and by interview session, and the verbal description of the way in which each strategy was applied. The first aspect of the data is a quantitative analysis and provides an overview of the strategies that are most important for the listening comprehension tasks used in the study; the second is a qualitative analysis and provides insights into the way in which different strategies are used in performing the task.

Quantitative Analysis of Processing Strategies

Before analyzing the protocol data, a preliminary analysis was performed on the differences in protocol length between effective and ineffective listeners. The purpose of this analysis was to ensure that differences in frequency of strategy use could not be attributed to differences in language productivity. Each student generated from two to nine protocol pages per listening activity in Session 1. There was virtually no difference between effective and ineffective listeners in the number of protocol pages their think aloud generated. For example, the average number of single-spaced pages in a think aloud transcript on Massasoit was 3.6 for the effective listeners and 3.7 for the ineffective. In both groups, the hardest listening activity (Bad Business Decisions) resulted in more protocol pages, with the ineffective listeners generating slightly more (5.2 pages in contrast to 4.7 for the effective listeners).

Learning strategies that students used in the listening tasks for session one are presented in Table 2, which shows the task on which the strategy was used and the average frequency of use among effective and ineffective listeners by strategy type. Because only modest differences were found between effective and ineffective listeners in the use of individual strategies on each task, an efficient approach to analyzing the data was sought that would avoid performing statistical analyses where non-significance was inevitable. An arbitrary level of 2.0 or more of a difference in strategy use between effective and ineffective listeners was used as a minimum condition for testing significance. The focus was on differences between effective and ineffective listeners for different types of tasks rather than on simple differences between tasks regardless of listener characteristics. Thus, main effects for task differences independent of listener characteristics were not analyzed.

Table 2

Learning Strategies Used by Effective and Ineffective Listeners in Session One on Each of Three Listening Tasks

	Massasoit			Dictation			Bad Bus. Dec.			Total		
Strategy	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2
Metacognitive												
Directed Attention	1.2	0.3		1.0	0.0		1.0	0.3		3.2	0.7	yes
Selective Attention	1.0	1.3		1.4	2.0		1.2	0.7		3.6	4.0	
Self-management	0.2	1.3		0.2	0.0		0.6	1.0		1.0	2.3	
Self-monitoring	1.6	0.3		4.6	2.3	yes	2.4	0.0	yes	8.6	2.7	yes
Self-evaluation	0.6	0.0		2.4	1.7		1.8	0.3		4.8	2.0	yes
Total Metacognitive	4.6	3.3	yes	9.6	6.0	yes	7.0	2.3	yes	21.2	11.7	yes
Cognitive												
Repetition	1.2	0.0		2.0	4.3		1.6	0.7		4.8	5.0	
Translation	0.8	0.3		0.8	0.7		1.0	0.3		2.6	1.3	
Deduction	0.2	0.0		0.6	0.0		0.2	0.0		1.0	0.0	
Imagery	0.6	0.0		0.8	0.0		0.2	0.0		1.8	0.0	
Audit. Repres.	0.6	0.0		0.4	0.7		0.4	0.3		1.4	1.0	
Elaboration	4.2	1.0	yes	4.4	1.0	yes	7.0	1.0	yes	15.6	3.0	yes
Summarizing	0.0	0.0		0.2	0.0		0.0	0.0		0.2	0.0	
Transfer	0.6	0.7		0.8	0.3		0.6	0.7		2.0	1.7	
Inferencing	2.0	1.3		0.6	0.3		4.4	1.3	yes	7.0	3.0	yes
Total Cognitive	10.2	3.3	yes	10.6	7.3	yes	15.4	4.3	yes	36.2	15.0	yes

Table 2 (continued)

Strategy	Massasoit			Dictation			Bad Bus. Dec.			Total		
	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2	Eff (n=5)	Ineff (n=3)	Diff >2
Social/Affective												
Quest. for Clarif.	5.2	4.0		4.8	6.7		6.4	6.7		16.4	17.3	
Self-talk	0.0	0.3		0.0	0.0		0.0	0.0		0.0	0.3	
Total Soc./Aff.	5.2	4.3		4.8	6.7		6.4	6.7		16.4	17.7	
Total All Strat.	20.0	11.0	yes	25.0	20.0	yes	29.8	13.3	yes	74.0	44.3	yes

Note: No student used the following strategies: advance organizers, organizational planning, resourcing, note-taking, contextualization, cooperation, delayed production, self-reinforcement, directed physical response, grouping, or the key word method.

Table 3 presents the results of the significance tests for strategies on which effective and ineffective listeners differed by at least 2.0. These strategies were: self-monitoring (on the dictation, on the Bad Business Decisions lecture, and on the total use across all three tasks); directed attention (the total use across all three tasks); self-evaluation (the total use across all three tasks); elaboration (on each task individually and the total across all three tasks); and inferencing (on Bad Business Decisions and on the total across all tasks).

As Table 3 shows, the results indicate that effective listeners used both self-monitoring and elaboration significantly more than ineffective listeners on a total strategy measure across three listening tasks. In addition, on one task that was considered to be unfamiliar to the students (Bad Business Decisions, which dealt in part with World War II), effective listeners registered significantly higher incidences of self-monitoring and elaboration. Effective listeners used over twice as much inferencing across the three listening tasks, and over three times as much inferencing on Bad Business Decisions, but the differences were not statistically significant.

These findings suggest that the principal strategies on which effective listeners differed from ineffective listeners in this sample of students are self-monitoring, elaboration, and--to some extent, with unfamiliar materials--inferencing. Since the students were not selected randomly from a large number of ESL students, and the number of students is small, no generalizations can be made about the frequency of strategy use on listening comprehension for all students. Nevertheless, the differences noted are substantial and are consistent with theory which suggests that more effective learners use strategies more frequently in performing tasks on which they expect to learn and retain meaningful amounts of information.

An exploratory analysis was performed on findings that characterized differences in strategy use over time. However, the analysis could only be conducted on data from the effective listeners. Ineffective listeners did not return for followup data collection sessions despite reminder telephone calls and therefore prevented comparisons between effective and ineffective listeners over time. Table 4 presents comparisons of the strategies used by effective listeners in Session 1 and Session 3. The time between these two sessions was roughly 1 month. Comparisons are made between student strategy use on the two most comparable listening tasks: Massasoit in Session 1 and Captain Cook in Session 3. Both lectures are similar in content, difficulty, and structure. They present historical data in chronological order.

As in prior analyses, differences equal to or greater than 2.0 were selected for statistical comparison. The results presented in Table 4 indicate that student use of three strategies differed by more than 2.0 from Session 1 (Massasoit) to Session 3 (Cook). These strategies were: imagery, elaboration, and inferencing. A difference of 2.0 or more was also apparent for total cognitive strategy use and total of all strategies used. Table 5 presents the results of these significance tests.

Inspection of Table 5 reveals that strategy use changed significantly over time for imagery ($p < .01$), elaboration ($p < .01$), and the total of all cognitive strategies ($p < .05$). The greater use of imagery from Session 1 to Session 3 may well have been associated with the nature of the materials, for

Table 3

Selected Comparisons of Effective and Ineffective Listeners on Mean Strategy Use

Strategy	Task	Mean Scores (St. Dev.) Effective	Ineffective	t (df = 2)
Metacognitive				
Self-monitoring	Dictation	4.6 (2.5)	2.3 (1.2)	1.8
	Bad Bus. Dec.	2.4 (1.7)	0.0 (0.0)	3.2*
	All Tasks	8.6 (2.7)	2.7 (1.5)	4.0*
Directed Attention	All Tasks	3.2 (2.5)	1.0 (0.6)	2.2
Self-evaluation	All Tasks	4.8 (3.7)	2.0 (0.0)	1.7
Total Metacognitive		21.2 (4.1)	11.7 (1.5)	4.7*
Cognitive				
Elaboration	Massasoit	4.2 (3.0)	1.0 (1.7)	1.9
	Dictation	4.4 (2.1)	1.0 (1.7)	2.5
	Bad Bus. Dec.	7.0 (4.1)	1.0 (1.0)	3.1*
	All Tasks	15.6 (6.8)	3.0 (4.4)	3.2*
Inferencing	Bad Bus. Dec.	4.4 (2.6)	1.3 (2.3)	1.7
	All Tasks	7.0 (2.5)	3.0 (4.4)	1.4
Total Cognitive		36.2 (8.6)	15.0 (12.5)	2.6
Total All Strategies		74.0 (9.5)	44.3 (18.9)	2.5

* $p < .05$.

Table 4

Mean Strategies in Session 1 and Session 3 for Massasoit and Captain Cook Tasks for Effective Listeners

Strategy	Session 1 Massasoit (n = 4)	Session 3 Cpt. Cook (n = 4)	Difference > 2.0
Metacognitive			
Advanced Organizer	0.0	0.8	
Directed Attention	1.5	0.5	
Selective Attention	1.3	1.8	
Self-management	0.0	0.5	
Organiz. Planning	0.0	0.0	
Self-monitoring	1.3	2.5	
Self-evaluation	0.5	0.8	
Total Metacognitive	4.5	6.8	yes
Cognitive			
Repetition	0.8	1.0	
Resourcing	0.0	0.0	
Translation	1.0	2.3	
Note Taking	0.0	0.0	
Deduction	0.3	0.0	
Imagery	0.8	5.3	yes
Audit. Representation	0.5	1.3	
Contextualization	0.0	0.5	
Elaboration	4.5	7.0	yes
Summarizing	0.0	0.0	
Transfer	0.5	0.8	
Inferencing	1.8	5.3	yes
Total Cognitive	10.0	23.3	yes
Social/Affective			
Quest. for Clarif.	4.0	4.8	
Self-talk	0.0	0.0	
Total Social/Affective	4.0	4.8	
Total All Strategies	18.5	34.8	yes

Table 5

Selected Comparisons of Session 1 and Session 3 on Mean Strategy Use for Effective Listeners

Strategy	Mean Strategy Use (St. Dev.) Session 1 Massasoit	Session 3 Cook	t[a] (df = 3)
Cognitive			
Imagery	0.8 (1.0)	5.3 (1.0)	7.0**
Elaboration	4.5 (3.4)	7.0 (3.7)	8.7**
Inferencing	1.8 (1.0)	5.3 (2.5)	2.8
Total Cognitive	10.0 (4.2)	23.3 (7.0	3.5*
Total All Strategies	18.5 (6.0)	34.8 (11.7)	2.7

[a]Data on only 4 of the 5 effective listeners were used in this analysis because the interview tape for the third session on one student was unintelligible.

* $p < .05$
** $p < .01$

the student workbook contained a visual aid (a map of the world by which the students could trace the path of Cook's explorations). The greater use of elaboration from one session to another could be due to differences in the way the tasks were perceived or to genuine differences in knowledge available on the topic. However, additional explanations are feasible. The Cook materials, while similar in difficulty and presentation to the Massasoit lecture, may have had an effect on student elaboration, either because the lecture was somewhat longer or because it focused on exploration around the world, as opposed to early events in one nation, as did Massasoit. Also, the Cook lecture comes in the third session, while Massasoit was the very first task the students were given in this study. The increased incidences of elaboration could have resulted from the students' greater familiarity with the interview situation, the interviewer, and the think aloud process itself.

Information on qualitative differences in the way in which students used the strategies is needed to augment this description of strategy frequencies. These differences are discussed in the following sections.

Qualitative Analysis of Processing Strategies

Comments transcribed from the "think-aloud" sessions were examined in relation to Anderson's three processes of listening comprehension. In perceptual processing, attentional influences on listening comprehension were analyzed for how students deal with distractions. For parsing, the analysis focused on factors which influence segmentation of oral text into meaningful units and particularly into chunks of comprehensible size. And for utilization, the analysis focused on the use of prior knowledge to assist comprehension, and the use of elaborations to assist recall. A fourth section of these results examines the relationship between text difficulty and processing strategies to determine if students alternate between the cognitive, associative, and autonomous stages of learning as the difficulty of linguistic items changes in the text. A final section identifies general processing strategies that apply across tasks used in listening comprehension.

Each topic is discussed and illustrated with comments from effective and ineffective listeners. The comments that were selected for inclusion are meant to illustrate the typical way in which a strategy was used; they do not represent isolated or unique strategy applications.

Students typically chose to think aloud in Spanish; only one student (designated as an effective listener) made more than occasional remarks in English. All student comments in this section are presented in English for the reader's convenience. While some remarks were originally made in English, most have been translated from Spanish. All translations were verified independently by a second person also fluent in Spanish. All student quotes are followed by a number in parentheses which cross references the translation to verbatim Spanish transcripts contained in Appendix E.

Perceptual Processing: Factors Affecting Attention

The three-process theory of listening suggested by Anderson indicates that attentional factors during perceptual processing are fundamental for comprehension. Because attention is limited in both scope and capacity, however, individuals attending to an unfamiliar language can be expected to have difficulty in identifying and retaining important portions of the oral text. Listeners often report reaching a point of saturation where they cannot continue to process additional information. What precipitates this inattention and how different listeners handle this difficulty need to be identified.

One factor that caused students to stop attending was related to the length of the listening task. The length of the listening passage was reported by some students to be so long that they could not maintain their attention throughout. Some students reported that they started thinking about or translating the first part of a passage, and then did not attend to the next part. The limited scope of attention to handle more than a single complex activity at one time is evident for these students.

Although all students indicated that their attention wandered at times, the characteristics of the learner affected the duration of the lapse in attention. Effective listeners seemed to be aware when they stopped attending and to make an effort to redirect their attention to the task, as illustrated in these examples:

- (Student talks about what she was thinking when the maintenance man came into the room, how the noise prevented her from concentrating, and then that she heard something on the tape that re-directed her attention). "Then when she (the voice on the tape) said that, it was like I took more interest in understanding it. That's what I was thinking. I was telling myself just now that I should pay more attention." (#1)

- (Student puzzles over the meaning of an item). "I stayed thinking about what she (the voice on the tape) had said before, and while she was ahead, I was behind. Then I said (to myself), forget it, and I went on ahead." (#2)

Thus, effective listeners had a strategic ploy for dealing with inattention that consisted of consciously redirecting their attention back to the task. In contrast, ineffective listeners reported that when they encountered an unknown word in a listening text, they usually just stopped listening and failed to be aware of their inattention or to try to redirect their attention to the oral text.

The characteristics of the materials also had an effect on students' attention. One student commented that a taped story was harder to attend to than material presented face-to-face. This student apparently relies strategically on extralinguistic cues such as facial expressions and gestures to derive meaning from oral text. Others indicated that their attention strayed when they thought that the pace of delivery of the taped lecture accelerated. Although the listening texts were all taped at a normal delivery pace with slightly elongated pauses between sentence boundaries, students may have perceived phrases that they did not comprehend as being spoken more rapidly than those they comprehended easily. During the dictation activity, several students commented on the brevity of the sentence "That's progress." One student indicated that he had difficulty with this short sentence because he was expecting a longer sentence, and the sentence was over before he had a chance to attend to it. It may have been that he did not attend to the verb in the sentence, which was given as a contraction ("that's") and was therefore not salient. In this case, he would have assumed that "progress" was the subject of the sentence and would have been expecting a verb phrase to follow.

Two other aspects of the listening material affected students' attention negatively. If the text reminded students of something they knew well, they sometimes go so involved in recalling prior knowledge that their attention wandered from the listening task. Thus, elaborations appeared to have a negative effect for students who did not carefully monitor their attention. And, if the topic of the lecture was uninteresting to a student, it was difficult to attend to. The following examples are both from effective learners. The first shows the influence of prior knowledge, and the second shows the influence of interest level.

- "I was thinking about what I've studied before in social studies." (Student then elaborated on what she remembered of the topic.) "I didn't pay much attention because of thinking of all that." (But the student then went on to say) "And then I started to pay attention and I concentrated on it" (the listening task). (#3)

- (After listening to a folk tale, the student said:) "That was the only thing I paid attention to. Because for the rest, I wasn't thinking, I wasn't paying attention to it." (Interviewer asked if it was because of the words or ideas in the story, because the story was a bit silly, or why?) "I guess so. I think that the story didn't appeal to me." (The student then went on to compare the story with a previous lecture on a scientific topic, which he had found interesting.) (#4)

Student attention was also affected by factors related to the environment or their own physical state. Many of the students were physically tired, and this interfered with their attention. The interviews were conducted after students had spent a whole day in school, and most of the students had evening jobs which prevented them from going to bed early. Some students also complained that they were tired because the sessions were too long. Other outside factors that interrupted attention were noise or people coming into the room while the interview was going on. Effective listeners nevertheless seemed to be able to monitor their attention lapses and get back on track if they were interested in the material.

Parsing: Segmenting Meaningful Units

In Anderson's second listening comprehension process, the listener segments or parses portions of the oral text based on cues to meaning or on structural characteristics. The basis for chunking and the size of the segments or chunks can be expected to vary depending on whether students are effective or ineffective listeners. Following are examples of the ways in which effective and ineffective listeners chunked units of meaning:

Effective Learners

- Listening for intonation and pauses (oral punctuation):

  "Listening for whole sentences." (How big?) "One line long." (How do you know?) "Because there are some, when you are talking there is some punctuation that you have to stop a little bit and then keep going." (#5)

- Listening for phrases or sentences:

  (Are you listening for exact words or phrases?) "No, for phrases. I put them together and then I figure it out more or less." (#6)

  (Do you listen word for word or...?) "No, I'm listening for the phrase." (#7)

(Do you listen word by word or phrases?) "Sentences. I always listen for sentences, that is, one sentence (at a time)." (#8)

- Listening for words and whole phrases:

  (Do you listen for words or whole phrases?) "I listen to all the words but there are some that sometimes seem strange, and then I don't remember - but sometimes I do (remember). And I keep associating the words and sometimes I use logic (infer) for what it means." (#9)

Ineffective Learners

- Listening for each word:

  "Well, first I listened to each word that she (the tape) was saying. I grasped it - but not really all of them." (#10)

  (Do you listen for words, phrases, or the meaning?) "Words." (#11)

- Listening for words and sentences:

  "I concentrate on the most difficult words and also on the sentence." (#12)

In general, the effective listeners seemed to be listening for larger chunks, shifting their attention to individual words only when there was a breakdown in comprehension. With one of the listeners quoted above (#6), there was evidence of concatenating segments to produce overall meaning. Ineffective listeners, on the other hand, seemed to approach listening as a task primarily requiring comprehension on a word-by-word basis. Thus, the general approach of the more effective learners was top-down processing, with bottom-up processing employed only when needed. Less effective students relied primarily on bottom-up processing to build meaningful units.

Students who were effective listeners also tended to parse based on semantic features in order to understand fully the meaning of sentences that they listened to. They inferred the meanings of new words that were important for comprehension of the oral text by using the context of the sentence or paragraph in which the unfamiliar word appeared. The following example shows how an effective listener used semantic information to infer the meaning of the word "belly."

Text listened to: "Of course, the tortoise could not sit for a long time. Whenever he reached for the food, he fell flat on his belly and all the baboons laughed. They ate all the delicious food and the tortoise got very little."

Student response: "That one...(there's) a word there that I think that...I imagine that it must mean 'carapace.' Or something like that of the tortoise. When she (the voice on the tape) said that he would fall on his carapace (shell), that he wanted to reach the fruit (sic) and he would fall on his...what was it?" (#13)

This student's ability to make an inference resulted in his parsing of the sentence meaningfully, although not with the exact equivalent of the unfamiliar English word "belly." Another example of meaningful parsing occurred with this substitution of the word "fruit" for the word "food," which was certainly a familiar word. It may be that the phrase "reached for the food" had the connotation of reaching up, as for fruit from a tree. In any case, this student, in common with other effective listeners, showed that he is adept at building meaningful sentences from the input he receives, even though the meaning may be slightly different from the actual text.

Utilization: Relating Meaning to Existing Knowledge

In cognitive theory, information attended to by listeners stimulates related concepts or prior information in long-term memory through spreading activation. Effective listeners either have more prior information available than ineffective listeners, have the information better organized, or use the prior information more strategically to comprehend and recall the new oral text (Rabinowitz & Chi, in press). Listeners make use of prior knowledge at two points: to assist comprehension and to assist recall.

Use of Prior Knowledge to Assist Comprehension. When listeners call upon prior knowledge to comprehend an oral text, their degree of success in relating the new information to what they already know may depend to a large degree on their characteristics as a learner. For the second language learner, two important characteristics are: effectiveness as a learner, and specific ways in which the prior knowledge is used to assist comprehension.

As was noted in Table 2, effective listeners were much more likely to recall prior knowledge (i.e., to use elaboration) to assist comprehension than were ineffective listeners. The "think-aloud" transcripts reveal that students typically make use of elaborations in three major ways to comprehend new information:

- World Knowledge - using world knowledge acquired either in an academic or a nonacademic context.
- Personal Knowledge - relating the new information to something meaningful on a personal level, such as making a judgment about the information or relating it to a personal experience.
- Questioning - asking oneself questions about the material listened to, or wondering about possible extensions of the information given.

Table 6 provides examples of these different types of elaborations. Effective students tended to relate new information to prior knowledge in all three of these types of elaborations. They frequently related the new information to their personal experience and made critical judgments about the value of the information. In contrast, the ineffective learners not only had fewer elaborations but also did not make connections between the new information and their own lives.

The familiarity of the information students listened to also had an effect on their ability to use prior knowledge. For example, all students had

Table 6

Types and Examples of Student Elaborations

1. World Knowledge

- Academic

  (After listening to the introduction to the lecture about Halley's underwater inventions, interviewer asks student what she thought when she heard "Halley's Comet.") I imagined the comet. (Int: Have you read something about the comet?) That comet, no. Only when I was in school they taught us definitions of comets and about space. (Student #5, Female) (#14)

- Non-academic

  (After listening to entire lecture on Halley's inventions, where his underwater diving suit is described.) Like when they go to space and when they, the people, went to the moon and they are out in the moon, they put those things to get air from the... (Student #4, Male) (#15)

2. Personal Knowledge

(After listening to description of how Halley's diving suit had a pipe going back to the diving bell, in order to get air) Well, I've seen films, but one time my step-father (who is a diver) almost drowned because one of those, where he was working in the Dominican Republic, it seemed that the air pump went out. And he had to come up in a hurry. And I remember the stories. (Student #2, Female) (#16)

3. Questioning

- Asking oneself questions about the material

  (After reading the introduction to the lecture on Halley's invention, but before listening) It says that it (the diving suit) is a bell and I don't think that the suit in itself carries a bell. I'm confused. (Student #1, Female) (#17)

- Questioning about possible extensions on the material

  (After hearing about the pipe on Halley's diving suit which carried air to the diver) How do you say, hum, PIPE, PIPES? For example, you can use the pipe to irrigate the flowers in the garden. What's the other word you say? (Int: Hose.) (Student #3, Male) (#18)

difficulty comprehending the section of the lecture on Bad Business Decisions which mentioned World War II. In the discussions following this listening exercise, it became clear that students had virtually no prior knowledge about this period of history that could help them comprehend the text. The following example from an effective listener illustrates comprehension difficulty related to the text topic:

> Text listened to: "...At that time, Germany owed a lot of money as a result of the Second World War. The British and American (car) experts thought they might take over the Volkswagen factory. By taking over the manufacture of Volkswagens, they thought Germany could pay back some of the money she owed."
>
> Student response: "On that bit I really did get lost...like Germany is going to pay the United States. That the United States is...and England owes it. Like...ah! Now I understand. It was because of the Volkswagen. Since they are going to sell it over here, they make more money and then with that money Volkswagen is going to make restitution for all that money that they lost." (#19)

This student seems to be trying hard to make sense of an oral text that assumes background knowledge she does not possess by finding a logical explanation for partially understood information. She knows that the Volkswagen is a popular car that sells well, and interprets the text as meaning that by exporting Volkswagens to the U.S., Germany will be able to get back all the money she lost. The concept of Germany's war debt or the fact that the British and American plan was to take over the Volkswagen factory, rather than Germany deciding to export the car, was not understood. However, rather than abandoning the attempt to make sense of the text as ineffective listeners tended to do, this student used elaborations related to her own knowledge to create something meaningful to her, although it was inaccurate in terms of the text.

Elaborations Used to Assist Recall. Listeners use elaborations to assist recall as well as to assist initial comprehension. The student uses whatever concepts, propositions, or schemata were developed initially during the comprehension task as the basis for information recalled at a later time. When the text of the comprehension task is forgotten, students frequently fill in other information from prior knowledge. As noted above, the initial elaborations appeared to be of three types--world knowledge, personal knowledge, and questioning. In cases where students added personal prior knowledge at the time of initial listening and/or for recall, substantive differences were evident between the student's understanding of the passage and the actual listening text, as the following two examples illustrate:

- Initial elaboration: (After listening to section of lecture on Halley's inventions in which the word "salvage" is explained.) "It was about salvage, that people go into the water. You know, when a ship fight? And it goes down into the sea...the people go and they can find whatever valuable things." (This elaboration is a partial paraphrase of the explanation given in the listening text.) (#20)

- Recall elaboration: (Student was asked what "salvage" means, and to give an example of a salvage effort in the present time.) "I think

salvage means to when the people drown? You know, they put the kids in a pool...if somebody is drowning, that guy can go and help it. You know, like that airplane that splash into the...that is...that bridge that's here." (Referring to airplane crash on the 14th Street bridge in Washington, DC.) (#21)

In the recall elaboration, the student has apparently forgotten that he had previously defined "salvage" correctly. The explanation given here seems to be based on the Spanish cognate "salvar" (to save).

- Initial elaboration: (After listening to the section of the lecture on Halley's inventions that described his diving bell.) "His problem was how to keep the air inside the bell. He used...uh...he took some...I don't know what they could be called...some tubes full of air that prevented...uh...that he, each time that they passed more (deeper), he opened the air valve...so that the water would stay outside with the air inside." (#22)

- Recall elaboration: (One of the comprehension questions asked how Halley kept the diving bell full of air and free of water.) "Each time that he was going down, he would open the valve (so) that the water wouldn't come in and the air wouldn't go out." (#23)

The similarity between the initial elaboration and the recall elaboration used by this student are in the comment about opening the valve. Yet the listening text did not mention valves at all. This student's step-father was a diver, and she had a great deal of prior knowledge about diving, which she apparently superimposed on the actual listening text.

Elaborations based on personal prior knowledge seemed to have a strong effect on students' recall. It was almost as if students, upon hearing something that related to personal knowledge, either made assumptions and did not listen closely enough to verify the accuracy of the assumption, or else forgot their original understanding of a new item and reverted to a familiar but mistaken understanding at the time of recall.

Elaborations to Support Inferencing. When faced with unfamiliar material, effective listeners frequently used prior knowledge to support their inferences. In other words, they recalled what they knew about the topic in general, and then used that information to make a logical guess about unfamiliar words or phrases. In some cases, an analogy with prior knowledge resulted in a reasonably accurate inference. In other cases, an elaboration using prior knowledge had the effect of adding so much additional information to the inference that the suggested meanings of unfamiliar words were substitutions rather than synonyms. An example of each type of elaboration-with-inference is shown below:

Logical analogy: "I was thinking about what 'chewing betel nut' means. And as each time that she (the voice on the tape) repeated it, I tried to see what it was that she was saying, (and) how it was pronounced. I don't think it could be chewing gum...perhaps some kind of plant. Something like that. Like here there are some people who chew tobacco." (#24)

Meaningful substitution: (Halley's diving suit is described as being made watertight by a mixture of "beeswax, tallow, turpentine, and oil.") "Okay, I didn't understand what...what he used, but since I've seen those suits of (diving suits she has seen)...They use something made of plastic...they use silicon to keep themselves and some other things...and oil - for what I don't know." (#25)

In the first example, the student is using non-specialized prior knowledge to infer that betel nut is some kind of plant that is chewed in much the same way as tobacco. In the second example, the student is using her specialized knowledge about diving (her step-father is a diver) to superimpose modern materials (plastic and silicon) on a description of the first diving suit, invented by Halley 300 years ago. Both students are utilizing the information they have listened to in order to make it meaningful to their own experiences. In general, this approach to utilization of new information by relating it to prior knowledge was a characteristic of effective listeners, but not of ineffective ones.

Text Difficulty and Processing Strategies

Learners acquiring complex skills such as language advance through three stages in Anderson's theory: a cognitive stage, an associative stage, and an autonomous stage. At each stage, different types of processing strategies may be used. Because some parts of an oral text are likely to be more difficult than others, however, an individual is likely to alternate strategies appropriate for different stages depending on the difficulty of specific linguistic items they encounter in the text. At the most advanced stage, autonomous processing, listeners would presumably be less aware of strategies since the language is being processed automatically and the focus of attention is on the meaning of the oral text. A goal of this study was to find out whether students who were processing a passage at the autonomous stage switched to the cognitive stage when they encountered difficulties.

The effective listeners were able to describe how they dealt with difficult words or phrases in an otherwise comprehensible segment. In discussing difficult words encountered in reading, one student reported looking for meanings of difficult words before reading the selection, and another student said that she read the beginning and end and tried to infer meanings of new words, as the following passages indicate:

- "First of all I look for words I don't know. For those words I don't know, then I look at the meanings of those words, and according to that meaning I look at what the story means. After doing this, I begin to understand what's going on about the story." (#26)

- "But when I don't know one (word), well, that's more difficult to understand...when I read the beginning and the end that way, then it helps me understand a word." (#27)

One student reported a sequence of procedures for dealing with difficult words in dictations which indicated that a number of cognitive strategies were used, as noted in parentheses:

- "But if the story is too difficult, as I told you, I go on writing what I understand and the words that I don't know, I write them in Spanish (translation; note-taking). From there I go back again to the story to where the words are (contextualization). I underline them so I don't make a mistake, I look up their meanings (resourcing), and I write them on another piece of clean paper (note-taking). In order to do well...I revise it well. To know if everything that is written makes sense (self-evaluation). Because if it is something that I have written that doesn't make sense, they're going to laugh at me (affective involvement)." (#28)

Effective listeners described various ways of dealing with new words, all of which appear to be conscious and operating at the cognitive or associative stage of acquisition. Some students try to retain a new word in short-term memory while they continue to listen, and later go back to it to see if they can understand it:

- "I let it (what isn't understood) pass and I think about the rest, and if I can remember back, that is, I try to record (e.g., mentally) the word, but I go on with the lecture. Then I understand the rest and afterwards, if I remember, I go back to the word. To see if I understand." (#29)

Other students try to translate new words into Spanish when comprehension breaks down:

- (Are you translating?) "Yeah." (Everything?) "Not everything. You know, when I heard about a place that I cannot understand much, I translate in Spanish." (#30)

One student was selective in what she chose to translate and seemed to be operating at the associative stage with words that she apparently could understand at least partially through English:

- "There are times that I only know what they (the words) mean, but to pass them to Spanish then seems a bit difficult for me. When I understand them only in English, I stay like that. I don't try to translate them to Spanish or else I stay like that - I only know what it means, but to (translate) to Spanish is difficult for me. And there are others that I do know in Spanish." (#31)

Students who were processing oral texts at the autonomous stage behaved very much like native speakers of English, in that they focused on the meaning of the passage rather than on its linguistic structure. In the example which follows, the student was confused, not because he encountered language difficulties in the lecture about Captain Cook's expeditions, but because the idea that it could be cold in the south did not make sense to him until he remembered prior information about the polar regions.

- "I was really confused, but then I remembered that in south - no, in the north pole and the south pole there is cold. And I said, 'How is it going to be cold in the south pole?' But I remember that it can be." (#32)

Although this student seemed to be processing the language at the autonomous stage, he was monitoring for comprehension of the meaning and used elaboration to resolve an apparent discrepancy between his own world knowledge (as you go south the weather gets warmer) and information in the oral text (when Captain Cook sailed south towards the pole, the weather became colder).

Ineffective listeners did not report these strategies for dealing with difficulties encountered either in the language or meaning of the text. They tended to say nothing or indicated that they stopped listening when they encountered an unknown word.

General Strategies

The most frequently occurring strategies were used for varied types of listening tasks, such as listening to an historical narrative (Massasoit; Captain Cook), listening to expository text (Bad Business Decisions; Halley's Inventions), taking dictation, and listening to a folktale (The Baboon and the Tortoise). The most frequently used metacognitive strategy for different tasks was self-monitoring, and the two most frequently used cognitive strategies were elaboration and inferencing, often used to support each other. In addition, questioning the interviewer for clarification was a strategy adopted by many students for each of the listening tasks.

The extensive use of self-monitoring, especially by effective listeners, was evident in the dictation task, which combined listening with written production, and in the tasks which involved listening only. Thus, students employed self-monitoring not only in the task requiring written production, but also in receptive tasks. Effective listeners were active monitors of their own comprehension and were aware of disruptions in their own comprehension. When such interruptions occurred, these students attempted to remedy the situation, either by directing their attention back to the text or by using a strategy such as elaboration and/or inferencing to build meaning into the text.

The role played by control processes, or metacognitive strategies, in listening comprehension appears to be two-fold. First, during perceptual processing, effective listeners tend to use directed attention as a way of focusing their attention on the input and as a way of re-directing their attention when it wanders. Second, effective listeners use self-monitoring for comprehension during parsing and utilization, as illustrated in these examples:

> Self-monitoring for parsing: (The student had just listened to the segment of Massasoit which said, 'The war lasted two years, and many Indians and English colonists were killed.') "I was thinking when, the first thing that she (the voice on the tape) read was about the war. It had lasted up to two years, but I wasn't sure what she said, because she said, 'the war lasts?' Something like that. Since 'lasts' is the last thing, right? Then I got confused, and I was trying to think if it was (if it meant) 'to finish' or 'endure' (lasted over a period of time). (#33)

Self-monitoring for utilization: (The student had just heard the section in the Captain Cook lecture which said, "This time the Navy gave Cook two ships: the Resolution and the Adventure. On this trip, Cook proved that there was no continent south of Australia other than Antarctica. He proved this by crossing the Antarctic Circle.") "I was thinking about the voyage that he did. Along (around?) the world like Magellan. I think about that, and that Antarctic Circle - I thought that it was an ocean, but then I knew that it was it (sic) on the south pole (Antarctica)." (#34)

In the first example, the student is monitoring for the precise meaning of the word "lasted." She knows that it is related to "final" (the last one) and also to the notion of lasting over a period of time. She is trying to decide which of these two meanings makes the most sense in the sentence, "The war lasted two years." In the second example, the student is monitoring for general comprehension of the message. He understands that Cook's voyage was by sea, and so at first thinks that "Antarctic Circle" is the name of an ocean; he quickly realizes his mistake, however, and correctly decides that it is something in the vicinity of the south pole and the continent of Antarctica. Thus, both of these effective listeners used self-monitoring of the message as a way of checking how well they were comprehending the overall meaning of a passage.

Not only did effective listeners use self-monitoring more frequently than did ineffective ones (see Table 2), but their monitoring was qualitatively different because it focused on the meaningfulness of a chunk of the message, rather than of isolated words. This focus on meaning for large chunks of information was described earlier under discussion of parsing. Furthermore, when effective listeners realized they were not comprehending a message they frequently employed other strategies to assist comprehension.

Finally, effective listeners were more able than ineffective ones to realize when a strategy was not working well. One student, for example, had a clear idea of when translation was useful and when it was not. When she had a general understanding of the message in English, she found that trying to translate was more trouble than it was worth (see example #26 above). Other students were also aware of their unsuccessful attempts to use a strategy, as the following examples indicate:

(Student was troubled by the name "Metacomet," which he heard in the lecture on Massasoit, and the interviewer asked him why that name was difficult.) "Well, I think it was because I didn't know if it was a thing or...I don't know. Because when I listened to it, even when I listened to it, I didn't know either how to say it. Then I didn't know how to write it or with what letter it started. Then, I couldn't..." (#35)

(Student listened to the section of Massasoit in which Massasoit warned the Pilgrims that other Indians were going to attack them.) "I was thinking that, that the Indians were the ones who attacked these (people), the...? I remember from the class we had in this...that I took last semester, and then I remembered that those

who attacked the colonists arrived there and I also remembered, that it was the British when...uh...they wanted to kill in the revolution. American Revolution, and...uh...that they had that war. I'm thinking who could it have been that attacked the pilgrims? I kept thinking, 'What? What Indians were they?'" (#36)

In the first example, the student tried a number of ways to understand the unfamiliar word, but none of them were successful, and he apparently gave up. In the second example, the student used prior knowledge about the American Revolution to make an elaboration on the story of Massasoit and the Pilgrims. At a certain moment, however, he seems to realize that the events of the Revolution did not relate to the Pilgrims or Massasoit, and so he dropped his original elaboration and began to wonder about which Indians had planned an attack on the Pilgrims. In both of these cases, as in a number of others described by effective listeners, an awareness of how well a strategy is or is not working is important in helping students exercise control over their own comprehension processes.

SUMMARY AND CONCLUSIONS

This study of learning strategies in second language listening comprehension is unique in three ways. First, the design of the study was based on an analysis of the role of cognitive theory in second language acquisition and listening comprehension. Second, the study design was also based on an analysis of the role of cognitive theory in describing the function of learning strategies. And third, the study describes learning strategies used by ineffective listeners as well as students designated as effective listeners. The focus of the study was on strategies used in each of three theoretically derived processes of listening comprehension by effective and ineffective listeners.

In perceptual processing, attention is considered to be limited in both scope and capacity, thereby placing constraints on the capability of an individual using English as a second language to focus on and retain new information. Effective listeners reported dealing with difficulties in attention by consciously refocusing on the task, whereas ineffective listeners usually just stopped listening and failed to be aware of the need to reorient toward the listening materials. Comprehension monitoring was reported more frequently among effective listeners than among ineffective listeners on a listening task with familiar materials and on a total monitoring score across three comprehension tasks. A student who failed to monitor comprehension could be distracted by personal knowledge related to the task and continue to reflect on this knowledge rather than attend to the text. Personal knowledge in the absence of comprehension monitoring or directed attention could therefore serve to distract a student instead of facilitate comprehension. Reasons for inattention were often related to the materials and included the difficulty or length of the listening task, unexpected pauses or perceived accelerations in the oral text, topics that were uninteresting to the student, or materials containing ideas that were not familiar. With unfamiliar materials, the listener had to retain words or phrases that were not understood while simultaneously processing new input, which provide exceedingly difficult for ineffective listeners.

In the second listening comprehension process, parsing, individuals segment or parse portions of the oral text based on cues to meaning or on structural characteristics of the message. Effective listeners tended to listen for large chunks, shifting their attention to individual words only when there was a lapse in comprehension. Ineffective listeners usually approached the comprehension task on a word-by-word basis. Effective listeners indicated that they used a variety of cues for meaning including listening for intonation and pauses, phrases or sentences, or individual words if necessary, inferring meaning when comprehension was not complete. Inferencing was reported more frequently among effective listeners than among ineffective listeners when the listening task contained words or concepts that were not familiar to the student, although the difference was not statistically significant. Effective listeners varied their processing strategies depending on the familiarity or difficulty of the materials, sometimes analyzing individual words, sometimes parsing whole phrases, and sometimes critically analyzing propositions in the oral text. Thus, these students alternated between processing strategies at the cognitive, associative, or autonomous stages of learning depending on the materials.

In the third process, utilization, information presented in the oral text often stimulates related information in long-term memory. Effective listeners made significantly more use of prior knowledge to assist comprehension and recall than did ineffective listeners across the three listening tasks. Three types of elaborations used by effective listeners were world knowledge, personal knowledge, and questioning about possible extensions or applications of the information. When elaborations were used to assist comprehension, students used their prior knowledge to make critical judgments about the information or relied upon personal anecdotes to add personal value to the information. In using elaborations to assist recall, students sometimes used schemata to add information that was not present in the original oral text or to infer information that was forgotten. Students also used elaborations to support inferences about the meaning of new words or phrases.

Monitoring was used frequently for both parsing and utilization, especially by effective listeners. In using monitoring with parsing, students examined their comprehension of the text materials in determining how to analyze the oral text. In monitoring during the utilization process, students typically analyzed the plausibility of the message they understood with respect to prior knowledge. These students monitored for comprehension of the general message, and when their comprehension failed, they attempted to make sense of the unfamiliar segment through combinations of other strategies, such as inferencing.

The cognitive theory of listening comprehension was effective in describing second language processing strategies among students of English as a second language. The theory was both supported and extended through the "think-aloud" interviews with effective and ineffective listeners. Extensions of the theory were evident in the salience of monitoring and elaboration in listening comprehension, and new information was contributed about the types of elaboration that are evident among effective listeners and the flexible use of strategies by effective listeners depending on the materials. The flexible use of strategies suggested that learners do not progress in a straightforward manner

through cognitive, associative, and autonomous stages in listening comprehension but alternate strategies depending on the difficulty or familiarity of the materials.

The conclusions reached in this study need independent confirmation due to limitations on the sample size and the fact that only three of the ineffective listeners provided acceptable data. There are two major problems in data collection with ineffective listeners: their unwillingness to return for additional data collection sessions, and their inexpressiveness when asked to describe their thought processes. Perhaps monetary incentives or the scheduling of interviews during class time would resolve their lack of participation, but their inexpressiveness could be either resistance or a genuine lack of active mental processing. We expect that materials with a high interest level for ineffective listeners would evoke better descriptions of processing strategies, although the strategies would still be expected to be of a more limited variety and less effective than the strategies reported by effective listeners.

An additional problem encountered in the study concerned the attempt to collect data on the stability of strategy use over time. Given the nonparticipation of ineffective listeners in data collection beyond session one, no stability data were available on these students. Stability information that was available on the effective listeners suggested that strategies varied considerably depending on the nature of the task. A future effort to collect information on the continuity of strategy use would need to draw careful attention to the interest and difficulty level of the materials if comparable strategies are expected over time.

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APPENDIX A

SESSION ONE INTERVIEWER GUIDE

I. WARM-UP (8-10 minutes)

(The warm up is designed to break the ice between the interviewer and the student. It will also give us an opportunity to gather some demographic and general information about the student.)

(Ask the student the following questions in Spanish:)

Where are you from?
How long have you been in the United States?
How long have you been studying English?
Did you study English in your own country before coming to the United States?
Do you speak English at home with your family?

How much education did you have in your native language?
Do you primarily speak your native language outside of school?
Does your native language help you to learn English?
Does what you learned in your country help you in school here?
What subjects are you taking in school here?

What do you think learning a language involves?

II. TRANSITION (5 minutes)

(The transition period is to warm the student up to thinking aloud and retrospecting. Say the following to the student:)

Now I'm going to give you a problem to read aloud and solve. I want you to think aloud as you solve the problem. This is only practice. I just want you to remember what we told you in the training session we had last week. Puedes hablar en español o en inglés, como quieras - pero diga en voz alta lo que está pasando por su mente mientras que lee y encuentra la solucción del problema. If you're thinking of a picture, say so. If you're thinking about something

completely irrelevant to the problem, say so. There is no right or wrong answer, so don't worry about that. I'm interested in what you think about as you solve this problem. Okay?

(Have the student open his workbook to PAGE 1. Prompt him with "What are you thinking?" if he falls silent too long.)

The student has been given the following problem:

> En una pequeña población, de 300 habitantes, del Estado de Michoacán, el 25% de los pobladores se dedican a la alfarería. ¿Cuántos habitantes de esta pequeña población son alfareros?

HAVE THE STUDENT CRITICIZE HIS OWN THINK ALOUD. Was he complete?

(The correct answer is 75. It's not really important that the student be able to solve the problem. What he does to solve the problem is. After he has worked the problem and thought aloud, go on to the VERBAL REPORT SESSION. The first exercise he gets is a lecture called: Bad Business Decisions.)

(You turn to the next page in this guide and give the student the introduction to the first listening activity.)

III. VERBAL REPORT SESSION (45 minutes total)

Activity 1: Listening to a History Lecture (Massasoit) 15 minutes)

(This is a lecture on the American Indian Massasoit. The lecture is recorded. There are pauses at strategic points where the student will be asked to retrospect about what he has just heard and to think aloud about what is going through his mind. Say the following:)

Now I'm going to play a tape for you. You will hear a small lecture called: Massasoit. Massasoit is the name of a man, an important American Indian. You will hear four bells during this lecture. At each bell, I'll shut off the tape recorder and ask you what you're thinking. You can answer in English or Spanish or a combination of the two, whatever is easiest for you. Remember, I'm interested in knowing what you do to help yourself understand the English you hear. Are you daydreaming? Are you remembering other lectures you've heard? Whatever. After the tape is finished, I will ask you to answer two questions. Before we begin, I'd like you to turn to page 2 in your workbook and read the introduction to the lecture.

(Have the student turn to page 2 in his workbook and read the introduction. The questions he will have to answer appear there. Then say the following:)

Before I start the tape, can you tell me what you're thinking about? Have you ever heard of Massasoit? Okay, let's start.

(Start the tape. When you hear the bells, stop it and have the student think aloud. When you've gone through the entire lecture, say the following:)

That's the end of the lecture. Can you tell me some of what went through your mind as you listened?

(Let the student talk. Then ask him some of the questions appearing on the next page in this guide.)

Did you have trouble understanding this lecture?

What didn't you understand?

What gave you trouble that you later figure out?

Were there words you didn't know? Could you guess their meanings?

What's your trick for listening to a lecture like this?

How would you tell a student to go about listening to a lecture?

Can you answer the comprehension questions in your workbook?

(The script of the lecture and the comprehension questions are provided on the next page in this guide.)

(When you've probed for how the student understood the lecture and remembered it, what strategies he used, what tricks he has, then say the following:)

Okay, I want to ask you some questions about words in the lecture. I want to know if you heard them in the lecture and if you know what they mean or could guess their meaning. Do you remember hearing the word: settled (as in "Massasoit was friendly to the Pilgrims who settled in Plymouth.")

(With each of the words you will give the student, let him say whatever he can about them: if he knew them, heard them in the lecture, guessed their meaning or ignored the word entirely.)

Do you remember the word: treaty (as in "Massasoit signed a peace treaty with the new colonists in 1621").

Do you remember the word: feast (as in "The Indians came to the first Thanksgiving and brought food for the feast as well.").

How about the word: warned? (As in "When other Indians planned to attack the Pilgrims, Massasoit warned them.")

SCRIPT FOR MASSASOIT LECTURE:

Today you're going to hear about an important American Indian. His name was Massasoit, and he was important because he believed in peace. He was friendly to the Pilgrims who settled in Plymouth.

First you will hear who Massasoit was and what he did. Massasoit was the Chief of the Wampanoag Tribe. He ruled the area that is today Cape Cod and part of Rhode Island. When the English Pilgrims arrived in America in 1620, Massasoit did not fight them. Instead, he signed a peace treaty with the new colonists in 1621. (PAUSE)

Now you will hear about the first Thanksgiving. The Pilgrims were very glad that the Indians were friendly and helpful. For instance, when the Pilgrims were hungry, Massasoit sold food to them. When the Pilgrims celebrated their Thanksgiving, they invited Massasoit and members of his tribe to the feast. The Indians came and brought food for the feast also. This was probably the first time that Europeans and American Indians learned that they could be friends. (PAUSE ON TAPE)

Next you will hear how the Pilgrims and Massasoit helped each other. When Massasoit was very sick, one of the Pilgrims cured him. Another example of the help they gave each other is: when other Indians planned to attack the Pilgrims, Massasoit warned them. Massasoit was such a good friend that many Pilgrims thought that he should be paid for the lands that were taken from him. (PAUSE)

Finally, let's see what happened after Massasoit died. Although Massasoit believed in peace, there was war after he died. His son Metacomet, who was called "King Philip" by the English, decided to attack the English because he did not want them to take any more Indian lands. The war lasted for two years, and many Indians and English colonists were killed. Massasoit's ideas about peace were forgotten.

In conclusion, Massasoit was important in American history because he signed a peace treaty with the Pilgrims and was a good friend to them for the rest of his life. He was a man who believed that peace was more important than war. (PAUSE ON TAPE)

Student's Comprehension Questions to the Lecture on Massasoit

1. In what part of the United States did Massasoit live?

2. Which of the following best describes Massasoit's attitude towards the Pilgrims?

   A) He did not want them to take any more Indian lands.
   B) He thought he should help the Pilgrims, not fight with them.
   C) He thought the Pilgrims should pay him for his lands.
   D) He liked the Pilgrims at first, then attacked and killed them.

Okay, now I'm going to read you one paragraph from the lecture and ask you if you can remember what went through your mind the first time you heard it. Also, I'm interested in knowing if what you think about this time is different and in what way. SO: tell me what goes through your mind this time and how it differed from what went through your mind the first time you listened to this passage. Okay?

I'm going to go sentence by sentence and pause after every sentence for you to tell me what you're thinking and how you're understanding what you hear. Ready?

"Finally, let's see what happened after Massasoit died." (PAUSE FOR THE STUDENT TO THINK ALOUD. Does he know all the words? Did he understand words this time that he did not catch before? Is he forming pictures, remembering other things, etc.?)

"Although Massasoit believed in peace, there was war after he died." (PAUSE)

"His son Metacomet, who was called King Philip by the English, decided to attack the English because he did not want them to take any more Indian lands." (PAUSE FOR THE STUDENT TO THINK ALOUD)

"The war lasted for two years, and many Indians and English colonists were killed." (PAUSE FOR THE STUDENT TO THINK ALOUD)

"Massasoit's ideas about peace were forgotten." (PAUSE FOR THINK ALOUD)

Good, that's very interesting. Do you have anything you'd like to add? Something you wanted to mention about listening to this lecture? Okay, let's go on to the next activity. It's a dictation.

(YOU turn to page 7 in this guide and introduce the activity.)

Activity 2: Dictation (15 minutes)

(You will read the dictation to the student ONCE at a normal pace. Then you will ask him to think aloud. Then you will dictate it slowly enough for him to write in the missing words and think aloud as he goes along. Then you will read the dictation one last time at a normal pace so he can check his work. The student will be asked to think aloud again after this last reading. SAY THE FOLLOWING:)

Our second activity is a dictation. I'm going to read it once through quickly and you just listen. Then I'll ask you to say what you're thinking about. Then I will read the dictation again and you will fill in the missing words. I want you to think aloud as you do this. Then, I will read the dictation one last time, so you can check your work. Afterwards, I would like to know what went through your mind as you heard the language and tried to understand it and write it. You can talk in English or Spanish or a combination of the two. The important thing is to tell me as completely as you can what your thoughts were as you listened and wrote.

Okay, turn to PAGE 3 in your workbook. That's where you will write the dictation. Notice that the first and last sentences are written in for you. You will write everything in between. Okay?

Now I'm going to read the dictation once through and you just listen.

(Have the student open to PAGE 3 in his workbook. Then read the following at a normal pace. Stop the student if he tries to write.)

(The dictation is as follows:)

The average person in North America in the year 1900 could expect to live 47 years. Today the average is 72 years. That's progress.

Or is it? It seems that the quality of life hasn't changed that much. A person living to 70 years of age in our day is just as bothered by physical and mental problems as was the 70-year-old in 1900. Recently, however, scientists have begun to work with things that may make growing old something to read about in history books.

(Then say the following:)

That's the dictation. What are you thinking about? How did you make sense of what you just heard?

(Let the student say whatever he has to say. Then say the following:)

Now I'll read the dictation aloud again and you write in the missing sentences. Notice that the first and the last sentence are written in for you. Remember to tell me what you're thinking as we go along. You can say what you're thinking either while you write - or if that's too difficult, then tell me when you're finished each sentence. Ready?

The average person in North America in the year 1900 could expect to live 47 years. Today the average is 72 years. (PAUSE FOR THE STUDENT TO THINK ALOUD, IF HE HAS ANYTHING TO SAY) That's progress. (PAUSE)

Or is it?//It seems that the quality of life // hasn't changed that much. (PAUSE FOR THE STUDENT TO THINK ALOUD) A person living to 70 years of age in our day // is just as bothered // by physical and mental problems // as was the 70-year-old in 1900. (PAUSE FOR STUDENT

TO THINK ALOUD) Recently, however, scientists have begun to work with things that may make growing old something to read about in history books. (PAUSE FOR THE STUDENT TO THINK ALOUD)

Before I read the dictation one last time, do you have anything you'd like to say about what you're thinking? Okay, I'm going to read the dictation one last time. Check your work. I will pause in the same places that I paused before. When I pause, tell me what is in your mind, even if it's irrelevant. Okay?

The average person in North America in the year 1900 could expect to live 47 years. Today the average is 72 years. (PAUSE) That's progress. (PAUSE)

Or is it? It seems that the quality of life hasn't changed that much. (PAUSE) A person living to 70 years of age in our day is just as bothered by physical and mental problems as was the 70-year-old in 1900. (PAUSE) Recently, however, scientists have begun to work with things that may make growing old something to read about in history books. (PAUSE)

There, that's it. Do you have anything you'd like to add to what you've already said? Can you tell me what you primarily focus on when you have a task like this to do? What is hard? What is easy?

Okay, that's interesting. Let's go on to our last activity for today.

Activity 3: Listening to a Lecture (Bad Business Decisions) 15 minutes

(The lecture is on tape. Say the following:)

Now I'm going to play another lecture for you. You will hear a small lecture called: Bad Business Decisions. You're going to hear two examples of bad decisions people have made in business. There will be FOUR bells on the tape. At each bell, I'll shut off the tape recorder and ask you what you're thinking. You can answer in Spanish or English or a combination of the two, whatever is easiest for you. Remember, I'm interested in knowing what you do to help yourself understand the English you hear. After the tape is finished, I'll ask you to summarize what you've heard and to answer two questions. Right now I'd like you to turn to page 4 in your workbook and read the introduction there.

(Have the student turn to page 4 in his workbook and read the introduction. The questions he will have to answer appear there. Then say the following:)

Before I start the tape, can you tell me what you're thinking about?

(Start the tape. When you hear the sound of crystal ringing, shut the recorder off and ask the student what he's thinking. Do not probe beyond "Were there words you didn't understand?" "What any part unclear to you?" "What sort of guesses have you made?" When he's said all he has to say, start the tape again.)

(When the lecture's over, say the following:)

All right. Can you summarize what you just heard? What was the lecture about?

(Let the student talk. Answer any questions he might have. Then say the following:)

Were there any parts you didn't understand? Words that you didn't know? Could you guess their meanings? How did you do this, can you remember? Now I'd like you to answer the three questions about the lecture. First, can you tell me what a slogan is and give me an example? Second, what does chewing betel nut do to your teeth? Third, why was Pepsodent Corp's slogan a bad one? And finally, What was the bad decision made by the

British and American car experts in 1948? How do you know it was a bad decision?

Okay, that's interesting. Now, I want to do the same thing with this lecture that we did with the first on Massasoit. I'm going to ask you about certain words used in the lecture and you tell me if you know them or not. If you don't know them, do you remember hearing them in the lecture? Did you try to guess at their meanings - and what did you guess and why?

The first word is: manufacture (as in "The Ford Motor Corporation decided not to take over the manufacture of the Volkswagen car.") (PAUSE FOR THINK ALOUD)

The second word is: advertise (as in "They wanted to advertise their product.") (PAUSE FOR STUDENT TO THINK ALOUD)

The third word is: wonder (as in "You'll wonder where the yellow went...") (PAUSE)

The fourth word is: Stain (as in "Betel nut stains your teeth.") (PAUSE)

And the last word is: profit (as in "The car went out of production $350 million short of making a profit.") (PAUSE)

Okay, now I'm going to read you one paragraph from the lecture and ask you if you can remember what went through you mind the first time you listened. I want you to do the same thing here as you did on the Massasoit lecture: tell me what you're thinking as I read you the sentences and if you understand differently this time than before. Okay? This time I'm going to read several sentences and then stop and let you talk. Here goes.

"The toothpaste did not sell. Pepsodent Corporation went to find out why not. The reason was very simple." (PAUSE FOR STUDENT TO THINK ALOUD)

"The Pepsodent Corporation had not tried to understand Southeast Asian culture. It seems that many natives of Southeast Asia chew betel nut. This is similar to chewing gum." (PAUSE FOR THINK ALOUD)

"However, betel nut stains your teeth. This means that chewing betel nut leaves a color on the white of your teeth." (PAUSE FOR THINK ALOUD)

"Chewing betel nut is also very expensive. It certainly costs more than chewing gum. Therefore, to a Southeast Asian, dark teeth - or teeth stained from chewing betel nut - are a sign of money." (PAUSE FOR THINK ALOUD)

"Obviously, people did not want to use Pepsodent toothpaste because it promised to remove signs of their wealth." (PAUSE)

Okay, that's very interesting. You've worked really hard this session and have told me lots of good things that will help other students like yourself. Let's schedule the next session. We should meet again in 2 weeks.

(Schedule the next THINK ALOUD SESSION. Then thank the student again and end the session.)

(The script for the lecture is provided on the next page. The comprehension questions are in the box below.)

STUDENT'S COMPREHENSION QUESTIONS:

1. What is a slogan? Give an example.
2. What does chewing betel nut do to your teeth?
3. Why was Pepsodent's slogan a bad one?
4. What was the bad decision British and American car experts made in 1948? How do you know?

Script for Listening Activity 3
Session One
Bad Business Decisions

This lecture is about bad decisions made by businesses. The first bad decision you will hear about was made by Pepsodent Corporation. This company makes the toothpaste Pepsodent. Their bad decision was trying to sell their toothpaste in Southeast Asia. The second bad decision you will hear about was made by Ford Motor Corporation in 1948. Together with British car experts, the Ford Motor Corporation decided not to take over the manufacture of the Volkswagen car. (PAUSE ON TAPE.)

First, let me tell you about Pepsodent's mistake. In the 1950s the Pepsodent Corporation, manufacturers of the toothpaste Pepsodent, wanted to sell their toothpaste in Southeast Asia. They wanted to advertise their product. This means that they wanted people to know the toothpaste was available and that they should buy it. To advertise the toothpaste in Southeast Asia, they used the same slogan they had used here in the United States. What works here, they reasoned, will work in Southeast Asia. The slogan was: "You'll wonder where the yellow went, when you brush your teeth with Pepsodent." (PAUSE)

The toothpaste did not sell. Pepsodent Corporation went to find out why not. The reason was very simple. The Pepsodent Corp. had not tried to understand Southeast Asian culture. It seems that many natives of SE Asia chew betel nut. This is similar to chewing gum. However, betel nut stains your teeth. This means that chewing betel nut leaves a color on the white of your teeth. Chewing betel nut is also very expensive. It certainly costs more than chewing gum. Therefore, to a Southeast Asian, dark teeth - or teeth stained from chewing betel nut - are a sign of money. Obviously, people did not want to use Pepsodent Toothpaste because it promised to remove signs of their wealth. (PAUSE)

Now for the second bad business decision. It was made in 1948 by British and American car experts. These experts went to the Volkswagen factory in Germany. At that time, Germany owed a lot of money as a result of the Second World War. The British and American experts thought they might take over the Volkswagen factor. By taking over the manufacture of volkswagens, they thought Germany could pay back some of the money she owed. (PAUSE)

The Americans were led by Ernest Breech, president of Ford Motor Corporation. His decision was: "The car is not worth a damn."

Sir William Rootes, speaking for the British, said: "The Volkswagen does not meet the fundamental technical requirements of a motor car."

After saying no to the Volkswagen, Ford Motor Corporation decided to make a car that was sure to sell. They built the Edsel, but no one wanted to buy it. The car went out of production after only two years, two months and fifteen days - and $350 million short of making a profit. (PAUSE)

In conclusion, you have heard about bad decisions made by 2 companies. Pepsodent's mistake was in advertising a toothpaste with the slogan: "You'll wonder where the yellow went, when you brush your teeth with Pepsodent." They did not understand that a Southeast Asian did not want to remove the yellow from his teeth. The second business mistake you heard about was made by the Ford Motor Corporation. They decided not to manufacture the Volkswagen car - a car which sold by the millions. Instead, they decided to build the Edsel - a car which nobody wanted to buy. (PAUSE)

APPENDIX B

SESSION TWO INTERVIEWER GUIDE

I. WARM UP (5 minutes)

(Ask the student the following questions:)

Has your approach to learning English changed during the time you've been in the United States? What did you do at the beginning to understand English and learn it? What do you do now?

What are your plans for after you graduate from high school?

Are you planning to go to college? Enroll in a training program? Work?

What do your parents want you to do?

What sort of a job would you eventually like to have? Do you need more school for this job?

II. TRANSITION (5 minutes)

Now I'm going to give you a practice activity, so you can warm up to thinking aloud. Remember the last session? We started off with a problem in Spanish and you practiced thinking aloud in Spanish. Then we went on to the English problems. Today is the same. This is only practice. I just want you to remember about think aloud. You can talk in Spanish or English, whichever makes thinking aloud easier for you. Please say aloud what goes through your mind as you read and solve the problem. Don't worry about getting the right answer. I'm more interested in what you think about as you solve the problem. Okay? Turn to page 5 in your workbook and think aloud as you do the problem.

(Have the student turn to page 5 of his workbook. Prompt him with "What are you thinking?" if he falls silent too long.)

The student has been given the following problem:

> El ancho de un campo es cuatro veces su longitud. Si el perimetro (la distancia alrededor del campo) es 120 pies, entonces la longitud del campo es... ????

(The correct answer is 12 pies. After the student has worked the problem and thought aloud, go on to the VERBAL REPORT SESSION TWO. The first exercise he gets is a science experiment.)

(YOU turn the page in this guide and give the student the introduction to the science problem activity.)

III. VERBAL REPORT SESSION TWO (45 minutes total)

Activity 1: Science Experiment (15 minutes)

(After the student has warmed up with the transition math problem, it's time to start the verbal report sessions for listening in English. Say the following:)

Now I'm going to give you some material in English. This is not practice. This first activity is a science experiment. I'm going to demonstrate the steps as I read the directions aloud. I'm going to pause every so often so that you can tell me what's going through your mind. Then you'll perform the experiment. While you do the experiment, I want you to think aloud about how you're remembering the steps. Puedes hablar en español o en inglés, como quieras - pero diga en voz alta lo que está pasando por su mente mientras que lee y encuentra la solucción del problema. Turn to pg. 9 in your workbook and read the introduction there.

(Give the student the following demonstration, reading the steps aloud and performing them as you do so.)

The equipment we need for the experiment is this little white card. I will read the steps and do them at the same time. The steps are:

1. Fold the corners of the card inward about an inch and a half from each end. The card is now divided into three parts, with the center section being longest. The parts on either end are about an inch and a half each. We will call these <u>flaps</u>. (PAUSE: ASK THE STUDENT WHAT'S GOING THROUGH HIS MIND.)
2. Now, pull the flaps outward until they are perpendicular to the center section of the card. The card should now look like a table, seen from the side. The flaps are the table's legs. (PAUSE: ASK STUDENT TO THINK ALOUD.)

3. Stand the card by its flaps on a flat surface and let it go.

4. Bend down and put your face on level with the card. You should stand about two feet away, facing the card. (PAUSE: ASK THE STUDENT WHAT HE'S THINKING.)

5. Blow as hard as you can, directly at the center of the card. No matter how hard you blow, the card should not move.

Now, it's your turn to do the experiment. First, what are you thinking? Okay, go ahead and do the experiment, thinking aloud as you do so.

(Let the student perform the experiment, and prompt him if he falls silent too long. What's he thinking? How is he remembering what to do? Is his retrieval language-based, image-based, concept-based? What does he think the point of the experiment is?)

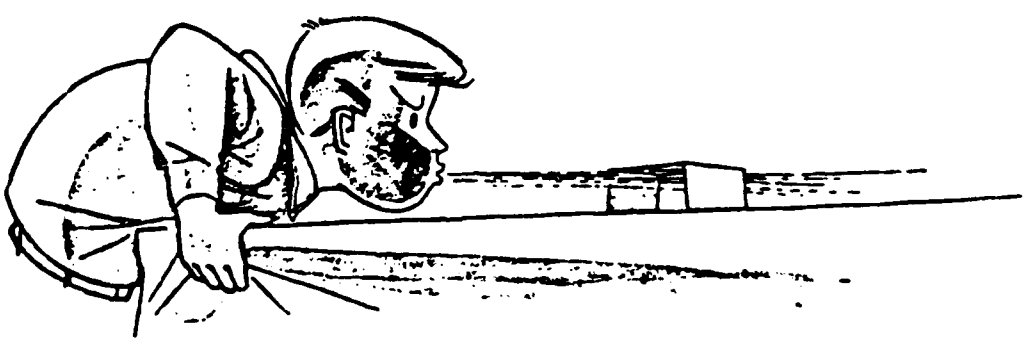
Good. Now let's go on to the next activity, which is a lecture.

(Turn the page to the next page in this guide and make the introduction to the lecture.)

EXPLANATION OF SCIENCE EXPERIMENT:

The experiment demonstrates a law of nature discovered over 200 years ago by the Swiss scientist Bernouilli. The law is: as the velocity of a gas (or liquid) increases, the pressure in the gas (or liquid) decreases. In other words: the greater the speed, the lower the pressure.

When you blow on the card (the bridge), the air flows beneath the bridge at a certain speed. Consequently, the air pressure under the bridge is lower than it is above. So the air on top of the bridge presses down on it - you could say that the bridge is sucked down against the table and the force which does this increases the harder you blow.



Activity 2: Lecture A Year Without Summer (15 minutes)

(This is a lecture on a history/science topic. The lecture is recorded. There are no pauses built in. The student is invited to stop the tape whenever he feels like it. He is not allowed to rewind the tape. If he stops the tape, he is expected to think aloud in the pause. Say the following:)

Now I'm going to play a tape for you. You will hear a lecture called: The Year Without Summer. There are no pauses on the tape, as there were in the last session we had together. I will not stop the tape. However, you may stop the tape if you want to. For example, if you had trouble understanding a sentence and want to think about it, push the stop button on the tape recorder. If you stop the tape, I would like to know what you are thinking about. Puedes hablar en español o en inglés, como quieras - pero diga en voz alta lo que está pasando por su mente mientras que escucha. Remember, I'm interested in knowing what you do to help yourself understand the English you hear.

Okay, open your workbook to page 7 and read the introduction there. Then I'll play the tape. Remember, you can stop the tape if you like, as many times as you like. Feel perfectly free. Afterwards, I'll ask you to summarize what you heard and answer the two questions listed on the introduction page in your workbook.

(Have the student open his workbook and read the introduction on page 7. When he's fininshed and before you start the tape, ask him what he's thinking. Then play the tape. If he stops the tape, have him think aloud about why he stopped it, what he did not understand, what he's thinking about and trying to figure out, if there's something he'll be listening for in the upcoming material.)

(Then say the following:)

All right. Can you summarize what you just heard? What was the lecture about?

What the lecture difficult? Could you understand most of it?

What didn't you understand?

What gave you trouble that you later figured out?

What's your trick for listening to a passage like this?

How would you tell a student to go about understanding a lecture?

Were there words you didn't know? Could you tell me what they were?

Can you answer the true/false questions in your workbook?

(The script for this lecture is provided on page 2c of this guide. Below are listed the comprehension questions the student is expected to answer. Both are false. If the student says false, ask him what a true answer would be.)

Comprehension Questions the Student is Expected to Answer:

T or (F) Mt. Tambora is in the New England part of the United States.

False: Mt. Tambora is in the Dutch East Indies. Do not let the student say merely true or false. Prompt him to tell you how he knows, based on the lecture. What would be a true statement?

T or (F) The dust from the volcano at Mt. Tambora fell on the crops in New England and killed them.

False: The dust did not fall on the crops; it went up into the atmosphere and shielded the Northern Hemisphere from the sun's warming rays. The crops died because the weather did not get warm enough to let them grow. Prompt the student through the same think aloud process. What would be a true statement?

If the student says that either or both are true (meaning he gives you the wrong answer) show him the script on page 2d in this guide and ask him to find the part that correctly answers the question. Have him think aloud as he looks for the part of the lecture that provides the answer.

(After the student has answered the questions and you've discussed his approach to this listening activity, say the following:)

Okay, now I'm going to read you one paragraph from the lecture and ask you if you can remember what went through your mind the first time you heard it. Also, I'm interested in knowing if what you think about this time is different from the first time and in what way. So: tell me what goes through your mind this time and how it differed from what went through your mind the first time you listened. Okay?

I'm going to go sentence by sentence and pause after each sentence for you to tell me what you're thinking and how you're understanding what you hear. Ready?

"People did not know why they were having such terrible weather." (PAUSE)
"Some thought God was punishing them for their wicked ways." (PAUSE)
"It was not until October of 1816 that a Prussian astronomer named Friedrich Bessel reported that he had seen great clouds of dust in the upper atmosphere." (PAUSE FOR STUDENT TO THINK ALOUD)
"This dust, he thought, might stop the rays of the sun from getting through and warming part of the Northern Hemisphere." (PAUSE)

(Were there words the student did not understand, either this time or the first time? Did he understand something this time that he missed the first time? Probe for differences between listenings. Then say the following:)

That's very interesting, thank you. Now let's go on to our last activity for this session. It's a story about a Tortoise and a Baboon who become friends. Turn to page 8 in your workbook and read the introduction that appears there.

(YOU turn to page 21 in this guide and give the intro to the activity.)

Script for Listening Activity 2
Session Two
The Year Without Summer

Weatherwise, the year 1816 started off normally. In New England, the northeast part of the United States, farmers planned weeks ahead to the time of spring plowing and planting. April came, bringing warmer days. Plants began to grow and everyone thought: "Ah, spring is here!"

However, May was not warmer than April. In some places, it was actually colder. The farmers needed clear ground where planting could begin. Instead, they found the earth covered with heavy frost. People said: "Be patient. Mother Nature's just slow this year. Summer will be here soon."

June 6th came and with it, ten inches of snow fell across much of New England. People were amazed, but they still said: "The storm is the tailend of winter. Summer will still come." This was not true. The ground thawed for little spaces of time - then froze harder than ever. Except for a few hours at a time, the temperature stayed between 30 degrees F. and 40 degrees. No one could plant their crops.

The weather warmed a bit in July and August - up to the low 40s. But September brought more cold and icestorms. New England was not the only area hit by this strange weather. In Europe, England, Ireland, Scotland, France and Germany were hit hard too.

People did not know why they were having such terrible weather. Some thought God was punishing them for their wicked ways. It was not until October of 1816 that a Prussian astronomer named Friedrich Bessel reported that he had seen "great clouds of dust in the upper atmosphere." This dust, he thought, might stop the rays of the sun from getting through and warming part of the Northern Hemisphere.

He was right. As it happened, a small island called Sumbawa in the Dutch East Indies had a volcano. This volcano was called Mt. Tambora and people thought it was "dead." However, beginning in 1814, the volcano had minor eruptions of ash and steam. When the volcano finally erupted, or blew up, in April 1815, the sound was heard 931 miles away. These explosions continued for 34 days. So much dust went up from the volcano that Java, 310 miles away, was in complete darkness for 4 days.

This dust went up into the atmosphere of the earth. The billions and billions of pieces of dust stopped the rays of the sum from getting through and warming the Northern Hemisphere. The dust from volcanic eruptions thousands of miles away caused the "Year without Summer."

Activity 3: A Short Story in English The Baboon and the Tortoise (15 min.)

Now you're going to hear a story called: The Baboon and the Tortoise. This story is well known among the Swahili, a tribe of people in East Africa. A baboon is the animal you see here in this picture. A tortoise is this second animal.

Once during the story you'll hear the sound of a bell. When you hear the bell, I will stop the tape and I would like you to tell me what you're thinking. How are you understanding the language you hear? Are you daydreaming - whatever. Puede hablar en español o en inglés, como quieras - pero diga en voz alta lo que está pasando por su mente mientras que estaba escuchando.

When the story is over, I want you to tell me in your own words what it was about. Then I'll ask you the questions that appear in your workbook. Okay? Do you have any questions or thoughts you'd like to share. Okay, here's the Baboon and the Tortoise.

(Start the tape. When you hear the bell, stop the tape and have the student think aloud. Then let the rest of the story play. There's a bell at the end. Then say the following:)

That's the end of the story. Can you tell me some of what went through your mind as you listened? In your own words, what was the story about?

Was the story difficult to understand? What parts? Were there words you didn't know? Later figured out?

Can you answer the comprehension questions in your workbook?

(The script for the lecture and the comprehension question are listed on the next page in this guide. Once the student has said all he has to say, say the following:)

Script for Listening Activity 3
Session Two
The Baboon and the Tortoise

One day the baboon and the tortoise made a pact of friendship. They both decided to marry, and to invite each other to their weddings.

When the baboon celebrated his wedding, the tortoise came. The baboon told the tortoise to come and sit in the tree. "It is good manners in the country of the baboons," he explained. "It is very rude to eat while lying on the floor."

Of course the tortoise could not sit for a long time. Whenever he reached for the food, he fell flat on his belly and all the baboons laughed. They ate all the delicious food and the tortoise got very little. (PAUSE ON TAPE)

When it was time for the tortoise to marry, he of course invited the baboon to his party. "But," he told him, "remember that you must come with clean hands. You know very well that it is an offense to arrive at a dinner party with dirty hands."

Before the baboon arrived, the tortoise burned the dry grass around his house. He also burned all the shrub as well. When the baboon arrived, having carefully washed his hands, he had to walk through the charred grass. So his hands and feet got dirty again.

The tortoise sent him back, saying, "Did I not tell you to come with clean hands? Go back to the river and wash your hands." So the baboon went back to the river and washed his hands again. But to get back to the tortoise's party, he had to walk through the same charred grass and sooty dust. The tortoise sent him back a second time, and a third, until all the splendid food had been eaten by the tortoise and his relatives. The poor baboon got none. (PAUSE ON TAPE)

The comprehension questions the student is expected to answer:

1. Why couldn't the tortoise sit for a long time?

2. Why did the baboon's hands get dirty?

3. Another title for this story could be...

   a. The Baboon's Wedding
   b. The Tortoise's Revenge
   c. Animal Friendship
   d. Good Manners

Now I want to do the same thing with this lecture that we did with the one about the Year Without Summer. I'm going to read you one of the paragraphs from the lecture and stop after each one. I am interested in knowing what you think about as you listen. Does it differ from what went through your mind the first time you heard it? Do you understand things this time that you missed the first time? Okay? The paragraph is about the tortoise's wedding.

"Before the baboon arrived, the tortoise burned the dry grass around his house." (PAUSE FOR THE STUDENT TO THINK ALOUD)

"He also burned all the shrub as well." (PAUSE)

"When the baboon arrived, having carefully washed his hands, he had to walk through the charred grass." (PAUSE)

"So his hands and feet got dirty again." (PAUSE)

Okay, that's interesting. You've worked really hard today, thank you. Do you have anything you'd like to add? Okay, let's schedule the next session. It'll be in two weeks time.

(Schedule the next session and give the student the letter reminding him of the date, time and place. Then end the session.)

APPENDIX C

SESSION THREE INTERVIEWER GUIDE

I. WARM-UP (8-10 minutes)

(Ask the student the following questions in Spanish:)

Has your approach to learning English changed during the time you've been in the United States? How?
What are your plans for after you graduate?
Are you planning to go to college? Enroll in a training program? Get a job?
What do your parents want you to do?
What sort of a job would you like to have? Do you need more schooling for this job?

II. TRANSITION (5 minutes)

(The transition period is to warm the student up to thinking aloud and retrospecting. Say the following to the student:)

Now I'm going to give you a problem to read aloud and solve.

I want you to think aloud as you solve the problem. This is so you can warm up to thinking aloud. Turn to page 1 in your workbook and solve the problem, remembering to say aloud all the thoughts that go through your mind as you work. It doesn't matter if you get the correct answer or not. I'm interested in what you think about as you solve this problem. Okay?

(Have the student turn to page 1 in his workbook. Prompt him with "What are you thinking?" if he falls silent too long.)

The student has been given the following problem:

> Una fábrica de té produjo 6,792 bolsitas de té en un día. Si se ponen 24 bolsitas en cada caja, ¿cuántas cajas se necesitan?

(Have the student CRITIQUE HIS OWN THINK ALOUD. Was he complete? The correct answer is 283. It's not really important that the student get this answer. What he does to solve the problem and what he says aloud is. After he has worked this problem, go on to the VERBAL REPORT SESSION. YOU turn to the next page in this guide and make the introduction.)

III. VERBAL REPORT SESSION

Activity 1: Listening to a History Lecture (Capt. Cook) 15 minutes

(This is a lecture on the explorations of Capt Cook into the South Pacific. Say the following:)

Okay, our first listening activity is a lecture on the explorer Captain Cook. Have you ever heard of Capt. Cook?

You will hear five bells on this tape. At each bell, I'll shut off the tape recorder and ask you what you're thinking. You can answer in English or Spanish, whatever is easiest for you. Remember, I'm interested in knowing what you do to help yourself understand the English you hear. Are you daydreaming? Are you remembering other lectures you've heard? Are you getting a mental picture of something? Whatever. After the tape is finished, I'll ask you the questions that appear on page 2 in your workbook. Turn there now and read the introduction to the lecture.

(Have the student turn to page 2 in his workbook and read the intro. Say the following:)

Before I start the tape, can you tell me what you're thinking about?

(Start the tape. Stop the tape at each bell and ask the general probing questions below. On the next page in this guide are specific probing questions for the various sections of the lecture. Ask them as well, if the student does not answer them in his think aloud.)

General Probing Questions

What are you thinking about?

Was that difficult to understand? What didn't you understand?

Were there words that you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? Do?

When you listen, do you listen for isolated words, groups of words, whole sentences or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

....General Probes are continued on the next page...

General Probes (continued) (to be asked at each bell:)

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream? (Student's workbook has a map - does he look at it or trace the path of Cook's voyage? Record this.) What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the lecture, with its pauses, and specific probes for each part:

The Explorations of Captain James Cook:

Have you ever heard of Hawaii or Tahiti? You probably have heard about vacations in Hawaii. Today, we know much about the land and people of the South Pacific. But in the 18th century, approximately 200 years ago, Americans and Europeans knew very little about the South Pacific. Today, you're going to hear about the expeditions of a brave explorer who wanted to find out about the South Pacific. His name was James Cook. (PAUSE)

Specific Probes for This Section:

Did you hear the word "expedition" in the lecture? Did you know what it meant? If not, what did you think when you heard it, can you remember?

In the first part of the 18th century, Europeans did not know if there was a continent south of Australia in addition to Antarctica. The English Navy asked a very intelligent and able man named James Cook to find out if this continent existed. First, you will hear something about the man and his special talents. Then I'll tell you about three of his expeditions in the South Pacific.

James Cook was born in England in the first part of the 18th century. His father was a poor farmer who encouraged his son to work and study hard. The young James Cook was excellent in mathematics. He was interested in navigation, which is how to direct boats. He joined the Navy. People quickly noticed his intelligence and his knowledge of navigation and astronomy. When European scientists wanted to know if there was a continent south of Australia, the Navy asked Cook to be the captain of a ship called Endeavor, which means "to try." Cook said yes and began to sail to the South Pacific. (PAUSE)

Specific Probes for This Section:

Did you hear the word "Navy"? Do you know what it means? If not, what did you think when you heard it, can you remember?

(Specific Probes continued on the next page)

The script of the lecture, with its pauses, and specific probes for each part:

Specific Probes (continued):

Did you hear the word "continent" in this lecture? Do you know what it means? If not, what did you think when you heard it, can you remember?

Can you state the main idea of this paragraph? How do you know?

Now you're going to hear about his explorations. He made three major voyages, or trips. In his first voyage, he sailed from England in the ship Endeavor, across the Atlantic Ocean and around Cape Horn, which is at the very tip of South America. This was a very dangerous area to go through because of the cold weather. Many people aboard the Endeavor died during the trip. (PAUSE)

Specific Probes for This Section:

Did you hear the word "voyage" in this part? What does it mean, do you know? If not, what did you think when you heard the word, can you remember?

Can you state the main idea of this paragraph? Was it difficult to understand where Capt. Cook went on his first expedition? How did you go about understanding the trip he made? Did you try to follow the path the speaker described? What helped?

Did you hear the word "Tip" in this part? Did you know what it meant? What did you think when you heard the word, can you remember?

By spring, Cook reached the island of Tahiti. He and his men found the island to be very beautiful. From Tahiti, they sailed to New Zealand. Here, they were almost killed by the Maoris, the native people of New Zealand. They quickly left New Zealand and sailed for Australia. In Australia, they had very little food left, so Cook and his men returned to England.

Cook's second major expedition began in 1772. The Europeans still wanted to know if any southern continent existed. This time the Navy gave Cook two ships: the Resolution and the Adventure. On this trip, Cook proved that there was no continent south of Australia other than Antarctica. He proved this by crossing the Antarctic Circle. He was the first person to cross this circle. This trip was very dangerous because of the ice and bad weather. However, Cook's previous trips to New Zealand and Tahiti taught him how to face the unknown. (PAUSE)

(Specific Probes are listed on the next page)

The script of the lecture, with its pauses, and specific probes for each part:

Specific Probes for this Section:

Did you hear the word "Maoris" in this lecture? Did you know the word? If not, what did you think when you heard the word, can you remember?

What was the main idea of this section? How do you know?

Did you hear the word "unknown" in this section? Did you know the word? If not, what did you think when you heard the word, can you remember?

His third and final trip was to the beautiful islands of Hawaii. He died in Hawaii fighting with the Hawaiians for possession of his ship. Cook is remembered, however, for his explorations and his courage.

In summary, Cook was an intelligent man who knew mathematics and navigation very well. He had an early interest in adventure and the unknown. His first expedition was to find out if a continent existed south of Australia, but this question was not answered during this trip. It was during his second voyage that he crossed the Antarctic Circle, which proved that no southern continent other than Antarctica existed. He was the first person to cross this region. In spite of bad weather, little food, and unfriendly people, Cook continued to explore until his death in Hawaii. But because of people like Cook, more was discovered about the South Pacific and its beautiful islands. (PAUSE)

Specific Probes for This Section:

Why was Cook fighting with the Hawaiian people?

Did you hear the word "unfriendly" in this section? Do you know what the word means? What did you think when you heard the word, can you remember?

What was the purpose of this paragraph, can you tell me?

(When the lecture is completely over, say the following:)

Is there anything else that went through your mind during this lecture that you haven't mentioned? Do you have any questions about what you heard? Can you answer the questions in your workbook? Okay, let's go on to the next activity.

(YOU turn to page 8 in this guide and make the introduction to the next activity. The script for the lecture on Capt. Cook in its complete form in provided on the next page in this guide.)

Complete Script for the Captain Cook Lecture:

Have you ever heard of Hawaii or Tahiti? You probably have heard about vacations in Hawaii. Today, we know much about the land and people of the South Pacific. But in the 18th century, approximately 200 years ago, Americans and Europeans knew very little about the South Pacific. Today, you're going to hear about the expeditions of a brave explorer who wanted to find out about the South Pacific. His name was James Cook. (PAUSE ON TAPE)

In the first part of the 18th century, Europeans did not know if there was a continent south of Australia in addition to Antarctica. The English Navy asked a very intelligent and able man named James Cook to find out if this continent existed. First, you will hear something about the man and his special talents. Then I'll tell you about three of his expeditions in the South Pacific.

James Cook was born in England in the first part of the 18th century. His father was a poor farmer who encouraged his son to work and study hard. The young James Cook was excellent in mathematics. He was interested in navigation, which is how to direct boats. He joined the Navy. People quicly noticed his intelligence and his knowledge of navigation and astronomy. When European scientists wanted to know if there was a continent south of Australia, the Navy asked Cook to be the captain of the ship called Endeavor, which means "to try." Cook said yes and began to sail to the South Pacific. (PAUSE)

Now you're going to hear about his explorations. He made three major voyages, or trips. In his first voyage, he sailed from England in the ship Endeavor, across the Atlantic Ocean and around Cape Horn, which is at the very tip of South America. This was a very dangerous area to go through because of the cold weather. Many people aboard the Endeavor died during the trip. (PAUSE)

By spring, Cook reached the island of Tahiti. He and his men found the island to be very beautiful. From Tahiti, they sailed to New Zealand. Here, they were almost killed by the Maoris, the native people of New Zealand. They quickly left New Zealand and sailed for Australia. In Australia, they had very little food left, so Cook and his men returned to England.

Cook's second major expedition began in 1772. The Europeans still wanted to know if any southern continent existed. This time the Navy gave Cook two ships: the Resolution and the Adventure. On this trip, Cook proved that there was no continent south of Australia other than Antarctica. He proved this by crossing the Antarctic Circle. He was the first person to cross this circle. This trip was very dangerous because of the ice and bad weather. However, Cook's previous trips to New Zealand and Tahiti taught him how to face the unknown. (PAUSE ON TAPE)

His third and final trip was to the beautiful islands of Hawaii. He died in Hawaii fighting with the Hawaiians for possession of his ship. Cook is remember, however, for his exploration and his courage.

(SCRIPT IS CONTINUED ON THE NEXT PAGE)

Complete Script for Cook Lecture (continued):

In summary, Cook was an intelligent man who knew mathematics and navigation very well. He had an early interest in adventure and the unknown. His first expedition was to find out if a continent existed south of Australia, but this question was not answered during this trip. It was during his second voyage that he crossed the Antartic Circle, which proved that no southern continent other than Antarctica existed. He was the first person to cross this region. In spite of bad weather, little food, and unfriendly people, Cook continued to explore until his death in Hawaii. But because of people like Cook, more was discovered about the South Pacific and its beautiful islands. (FINAL PAUSE)

Comprehension Questions the Student is Expected to Answer:

What was the purpose of Captain Cook's first and second expeditions into the South Pacific?

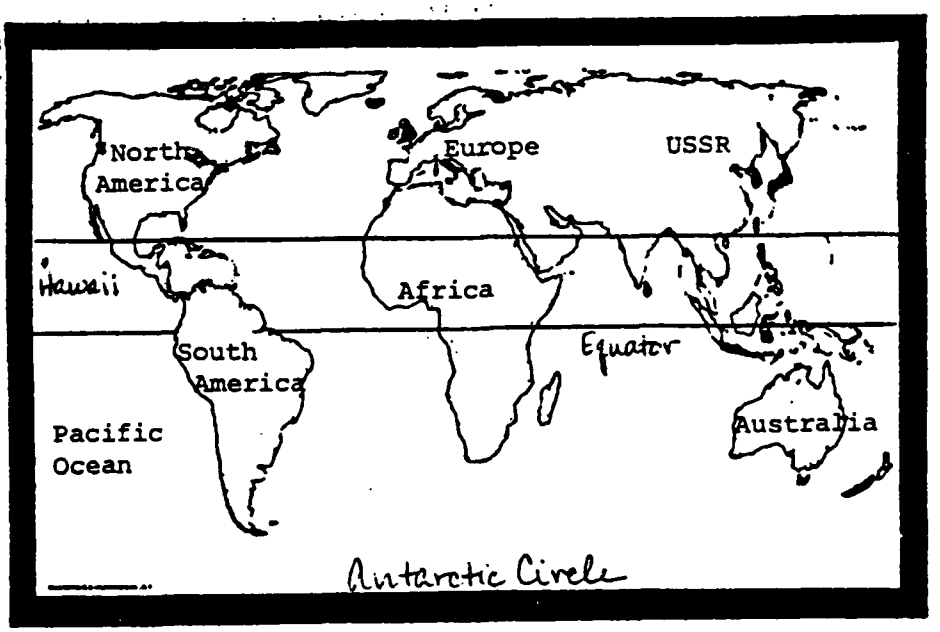
What was the name of Cook's first ship? Where did he go on this ship?

In what year did Cook start his second expedition?

In his second expedition, what did Cook prove? How did he prove this?

Where did Cook go on his third expedition? What happened to him?

Note: The student's workbook provides him with the following map:



Activity 2: A Science Experiment (15 minutes)

(Say the following:)

Now we're going to do a science experiment. Remember we did one in the second session we had together? This science experiment is intended to show you where the blind spots are in your eyes. I'm going to read the steps aloud to you and you will perform the experiment. After each part of the experiment, I will ask you what you are thinking. In one part, you will need my help.

Okay? Turn to page 3 in your workbook and read the introduction there.

(Have the student turn to page 3 in his workbook and read the introduction. Then ASK HIM WHAT HE IS THINKING, before you begin reading him the experiment.)

A pictorial of the experiment is on pg. 12.

(Read the following steps of the experiment to the student. He should follow your instructions as you go along. After each step you will ask him what he is thinking. If he has not understood, it should be fairly obvious, because he won't be able to do the step. Say the following:)

The equipment you will need for this experiment is this card and a ruler. I will now read the steps to you and YOU are to do them. Ready? Okay, the steps are:

1. Cover your left eye with your left hand. Hold the card at arm's length, about the height of your eye. (PAUSE: ASK THE STUDENT WHAT HE IS THINKING. If he has not followed your directions or made a mistake and corrected it, ask him what he understood, what words gave him trouble, etc. Did he listen to the words one at a time, or in groups of words? What determined the size of the group? If he had no trouble understanding, what helped him to make such sense of the step? Repeat the instructions until he makes sense of it, so that he can do the next step.)

2. Look at the cross ONLY. Do not look at the period on the card. Then, little by little, bring the card closer to your face until you can NOT see the period any more. Then stop moving the paper. (PAUSE FOR THE STUDENT TO THINK ALOUD. Has he followed your instructions? Has he stopped moving the paper? Why? If he doesn't say "because the period disappeared", then he has not understood what you asked him to do. If he stopped because the CROSS disappeared, he has not understood that he is supposed to be looking at the CROSS, not the period. Did he hear any words he didn't understand? What did he do to help himself figure out the meaning and perform the step? If he asks you to repeat the instruction, do so, BUT ask him first what he will be listening for. Make sure he has performed this step correctly, before continuing to the next step.)

3. Okay, I see you've stopped moving the paper. Now you need my help. I take this ruler and measure the distance between your LEFT eye (the one you have covered with your hand) and the paper. I am going to write this number down in your workbook under the column labelled "Student's Right Eye." (PAUSE FOR THE STUDENT TO THINK ALOUD, after you have done this step. Measure the distance and write it in the student's workbook, telling him what the distance was. Ask him what he thinks you're doing.)

4. All right. Now move the paper again towards your face, slowly, UNTIL you can see the period again. Then, when the period reappears, stop moving the paper and tell me. (PAUSE FOR THE STUDENT TO THINK ALOUD. Has he done what you instructed? If he moved the paper all the way to his face, he has not understood your instructions. Tell him that he was supposed to stop when

the period reappeared. Make sure that he does this correctly before going to the next step. He may have to start from the beginning to find the point where the period reappears.)

5. Okay. Now you need my help again. I take the ruler and measure the distance between the paper and your LEFT eye. I am going to write this number down as well, in your workbook. (PAUSE FOR THE STUDENT TO THINK ALOUD. You measure the distance between the paper and his covered eye and write the number down in his workbook.)

6. All right. The next step in this experiment is to calculate the "Distance of Total Blindness" for your right eye. I want you to do this: Subtract the first number in your workbook from the second number. That will give us the distance of total blindness for your right eye. (PAUSE FOR THE STUDENT TO THINK ALOUD. Has he done what you told him to, moving to his workbook and subtracting the two numbers? Is he wondering about the number, speculating as to what it means to him personally?)

7. Okay, now for the other eye. Cover your RIGHT eye with your RIGHT hand and hold the paper out at arm's length. This time, look at the PERIOD, not the cross. Then, little by little, move the card closer to your face. Stop when you can NOT see the CROSS any more. When you stop moving the paper because you can't see the CROSS, tell me. (Have the Student THINK ALOUD. Is this easier because he just did it on the other eye? Is he listening to the language or just proceeding because he knows what to do from before? When he's told you he can't see the CROSS anymore, and done any think aloud, go on to the next step.)

8. Now you need my help again. I take the ruler and measure the distance between your right eye and the paper. Then I write this number down in your workbook, under "The Student's LEFT eye."

(PAUSE FOR THINK ALOUD.) (YOU measure the distance between his right eye and the paper, writing this number in his workbook.)

9. Now move the paper again towards your face, slowly, UNTIL you can see the CROSS again. Tell me when the cross reappears in your vision.

(PAUSE FOR THE STUDENT TO THINK ALOUD. He'll stop moving the paper and say he can see the cross again. What else is he thinking?)

10. Now I measure again, taking the ruler and measuring the distance between your RIGHT eye and the paper. I write this down in your notebook. (PAUSE FOR THINK ALOUD. Is the student predicting ahead to the next step, which is subtracting the two numbers and finding DTB? Has he listened to the words, or is he relying on what happened with the other eye?)

11. Now, the final step in this experiment is to calculate the "Distance of Total Blindness" for your left eye. Subtract the first number in your workbook from the second number. That gives us the distance of total blindness in your right eye. (PAUSE FOR THINK ALOUD. The student should follow your instructions and subtract the two numbers. What does he think about this? Are the DTB numbers for his right and left eye the same? Does he mention anything in relation to the outcome of the experiment: differences in DTB, relevance to life, implications of DTB? Confusion as to what went on?)

(Then say the following:)

Do you have any thoughts to add that you had while doing this experiment that you didn't mention at the time?

Was this experiment hard? Was it hard to understand the English? Were you translating in your head; if so, which parts? All? Certain words? Groups of words?

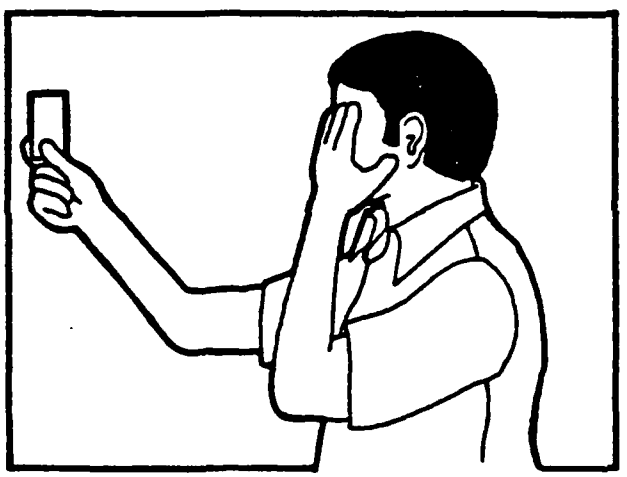
When you listened, did you listen word-by-word or in groups of words?

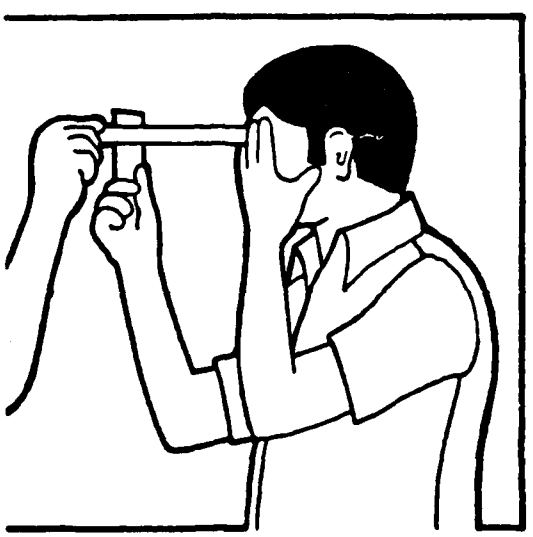
Okay, let's go on to our last activity today, which is listening to

a lecture called: Edmond Halley's Inventions.

(YOU turn to the next page in this guide and make the introduction.)

A pictorial of the science experiment:





Cover first one eye and then the other, moving card with CROSS and PERIOD (circle) towards face until the one not stared at disappears.

Then measure distance between card and covered eye (figure below).

Then move the card again, until the CROSS or PERIOD not being looked at reappears. Measure again the distance between card and face.

Write both of these figures in the student's workbook, for each eye.

Calculate "Distance of Total Blindness."

Activity 3: Listening to a Lecture (Edmond Halley's Inventions) (15 min.)

(Say the following:)

Now you're going to listen to a lecture called: "Edmond Halley's Inventions." There are 5 pauses on the tape and I'll ask you to think aloud after each one, saying what has gone through your mind as you listened. I'm interested in hearing if there were words you didn't understand, any pictures you formed in your mind, points of confusion you had, where you daydreamed or didn't understand what was being said, things like that. Memories you had, whatever.

Okay, open your workbook to page 4 and read the introduction there. Then I'll play the tape.

(Have the student open his workbook to page 4 and read the introduction there. Then ASK HIM WHAT HE'S THINKING, before you play the tape.)

(Then start the tape. Each time you stop the tape, ask the general probing questions below. On the next page in this guide is the script the student hears and specific probing questions to that section. Ask them as well, if the student does not answer them in his think aloud.)

(The complete script the student hears is on page 18 in this guide, in case he wants to look at a part of it, or you want to show it to him.)

General Probing Questions:

What are you thinking about?

Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing them? What did you think? What did you do: ignore it and keep on listening or try and figure out what it means?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

....General Probes are continued on the next page ...

General Probes (continued) (To be asked after each bell:)

Were you translating what you heard into Spanish as you went along or just listening to the English and understanding it? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

(The complete script for the lecture is provided on page 18 in this guide. If you want to show the student a part of the script, use this one, not the one provided below.)

The script of the lecture, with its pauses, and specific probes for each part:

Edmond Halley's Inventions:

Astronomer, physicist, engineer, and underwater adventurer, Edmond Halley was a curious man. He liked to invent things. We remember him best for discovering the path of Halley's Comet, which can be seen in the sky this year for the first time in 75 years. (PAUSE ON TAPE)

Specific Probes for This Section:

What did you think when you heard the stream of words "astronomer, physicist, engineer, and underwater adventurer"?

What did you think when you heard the words "Halley's Comet"?

But discovering the path of Halley's Comet was only one of the many remarkable things that Edmond Halley did in his lifetime. Today you're going to hear about two inventions of Edmond Halley. Both of the inventions were used underneath the water. These were: a diving bell and a diving suit. By today's standards, Halley's inventions were not very good. But in his time, the late 1600s, these inventions amazed many people. (PAUSE ON TAPE)

Specific Probes for This Section:

Did you hear the word "diving" in this lecture? Did you know what it meant? If not, what did you think when you heard it, can you remember?

Where were these inventions meant to be used?

Did you hear the word "amazed" in this lecture? Did you know what it meant? If not, what did you think when you heard it, can you remember?

The script of the lecture, with its pauses, and specific probes for each part:

In the late 1680s, Halley wanted to improve (or make better) the current methods of salvage. Salvage is when people try to find objects that have disappeared under the water. For example, people try to salvage ships that have sunk or gone down at sea. They swim underwater until they find the ship. Then they take from the ship any valuable objects they can find. (PAUSE)

Specific Probes for This Section:

One of your comprehension questions is about the word "salvage"? What does this word mean? Did you know the word when you heard it? If not, what did you do? Did you try to figure it out? If so, could you - and how?

Halley heard that West Indian divers had found an old Spanish galleon in the Bahamas. The divers had gone beneath the water and salvaged a fortune in gold from the ship. This captured Halley's imagination. He thought that the methods the divers had used to salvage the gold from the ship were not very practical. The divers could only stay underwater for as long as they could hold their breath. They could not dive very deep. Therefore, Halley decided to improve their method of diving. He built a diving bell. (PAUSE)

Specific Probes for This Section:

Did you hear the word "methods" in this lecture? What did you think when you heard it? What methods are being referred to? Why were these methods not very practical: can you describe the divers' methods? What did Halley do?

The diving bell had been used for centuries, but it was very crude. The diver still had to move outside the bell, holding his breath. Halley wanted to create a bell that would permit the diver to walk underwater as if he were walking on dry land. He made his bell of wood and covered it with lead. The bell was 5 feet tall. The diver stood on a platform about two feet below the bottom of the bell. (PAUSE ON TAPE)

Specific Probes for This Section:

This section describes Halley's bell. What did you think about when you heard the description?

Did you hear the word "platform" in this lecture? Did you know what it meant? If not, what did you think when you heard the word, can you remember?

What sort of bell did Halley want to create? (He wanted the diver to be able to move in a certain fashion. What fashion was this?)

The script of the lecture, with its pauses, and specific probes for each part:

Halley used his invention for the first time in the summer of 1691. The main problem was keeping the bell full of air. To keep the bell full of air, he used casks (or containers) that held 40 gallons of compressed air. Every so often, as the bell went deeper and deeper into the water, he put a cask of air under the bell and released the air inside. This method kept the bell free of water and full of air. (PAUSE ON TAPE)

Specific Probes for this Section:

Did you hear the phrase "keeping the bell full of air" in this lecture? Did you understand what that meant? What did you think when you heard it?

Did you hear the phrase "40 gallons of compressed air" in this lecture? Did you understand what that meant? What did you think when you heard it?

This section describes how Halley solved one problem with the diving bell. What problem was this? How did he solve it? What did you think about when you heard the description?

With the diving bell, Halley was able to go 60 feet under the water and stay there for almost two hours. This was incredible for the year 1691.

Still, the diving bell was not practical to use. So Halley tried again. This time he invented a diving suit. With a diving suit, he thought, the divers could move around freely, because a suit was almost like wearing clothes. (PAUSE ON TAPE)

Specific Probes for this Section:

Why did Halley invent the diving suit? What did you think about when you heard the phrase "diving suit"?

Here is what Halley did: First, he put on woolen pants and a jacket. This protected him from the cold. Then, he put on his invention: the diving suit. The diving suit was made of leather. It fit his body tightly. It was covered with a mixture of beeswax, tallow, turpentine, and oil; this mixture made the suit watertight. "Watertight" means that water could NOT go through the cloth. In other words, the diver did not get wet. (PAUSE ON TAPE)

Did you hear the phrase :a mixture of beeswax, tallow, turpentine, and oil" in this lecture? What did you think when you heard the phrase? Did you know what it meant?

This section describes Halley's diving suit. What did you think about when you heard the description?

What does the word "watertight" mean? What did you think about when you heard the word in the lecture?

The script of the lecture, with its pauses, and specific probes for each part:

Halley also made a helmet (or a hat) for the diving suit. The diver put the helmet on his head. He breathed air through a forty-foot pipe that went from the helmet back to the diving bell. This was Halley's diving suit. (PAUSE ON TAPE)

Specific Probes for This Section:

Did you hear the word "helmet" in this lecture? What did you think about when you heard it? Did you know what it meant?

What was the purpose of the helmet?

Did you hear the phrase "a forty-foot pipe that went from the helmet back to the diving bell"? How did you listen to this: word-by-word, groups of words together, or the entire phrase? Did you know what the phrase meant?

The diving suit worked so well that it was not changed for almost one hundred and fifty years.

So you see, Edmond Halley was a talented, creative man. We remember him because of Halley's Comet, but during his lifetime he invented many things. For use underwater, two of his inventions were: the diving bell and the diving suit. (LAST PAUSE ON TAPE)

Specific Probes for This Section:

What is the purpose of this paragraph?

(When the lecture is over, say the following:)

Is there anything else that went through your mind during this lecture that you haven't mentioned? Do you have any questions about what you heard? Do you think you could draw a picture of Halley's diving bell?

Okay, that's it for today. Thanks a lot for working so hard.

(End the session and schedule the student for the last one.)

(The uninterrupted script of this lecture, as well as the comprehension questions the student is expected to answer are provided on the next two pages in this guide.)

Complete Script to the Edmond Halley Lecture:

Astronomer, physicist, engineer, and underwater adventurer, Edmond Halley was a curious man. He liked to invent things. We remember him best for discovering the path of Halley's Comet, which can be seen in the sky this year for the first time in 75 years. (PAUSE ON TAPE)

But discovering the path of Halley's Comet was only one of the many remarkable things that Edmond Halley did in his lifetime. Today you're going to hear about two inventions of Edmond Halley's. Both of the inventions were used underneath the water. These were: a diving bell and a diving suit. By today's standards, Halley's inventions were not very good. But in his time, the late 1600s, these inventions amazed many people (PAUSE ON TAPE)

In the late 1680s, Halley wanted to improve (or make better) the current methods of salvage. Salvage is when people try to find objects that have disappeared under the water. For example, people try to salvage ships that have sunk or gone down at sea. They swim underwater until they find the ship. Then they take from the ship any valuable objects they can find. (PAUSE)

Halley heard that West Indian divers had found an old Spanish galleon in the Bahamas. They divers had gone beneath the water and salvaged a fortune in gold from the ship. This captured Halley's imagination. He thought that the methods the divers had used to salvage the gold from the ship were not very practical. The divers could only stay underwater for as long as they could hold their breath. They could not dive very deep. Therefore, Halley decided to improve their method of diving. He built a diving bell. (PAUSE ON TAPE)

The diving bell had been used for centuries, but it was very crude. The diver still had to move outside the bell, holding his breath. Halley wanted to create a bell that would permit the diver to walk under water as if he were walking on dry land. He made his bell of wood and covered it with lead. The bell was 5 feet tall. The diver stood on a platform about two feet below the bottom of the bell. (PAUSE ON TAPE)

Halley used his invention for the first time in the summer of 1691. The main problem was keeping the bell full of air. To keep the bell full of air, he used casks (or containers) that held 40 gallons of compressed air. Every so often, as the bell went deeper and deeper into the water, he put a cask of air under the bell and released the air inside. This method kept the bell free of water and full of air. (PAUSE)

With the diving bell, Halley was able to go 60 feet under the water and stay there for almost two hours. This was incredible for the year 1691.

Still, the diving bell was not practical to use. So Halley tried again. This time he invented a diving suit. With a diving suit, he thought, the divers could move around freely, because a suit was almost like wearing clothes. (PAUSE ON TAPE)

Complete Script for the Edmond Halley Lecture:

Here is what Halley did: First, he put on woolen pants and a jacket. This protected him from the cold. Then, he put on his invention: the diving suit. The diving suit was made of leather. It fit his body tightly. It was covered with a mixture of beeswax, tallow, turpentine and oil; this mixture made the suit watertight. "Watertight" means that water could NOT go through the cloth. In other words, the diver did not get wet. (PAUSE ON TAPE)

Halley also made a helmet (or a hat) for the diving suit. The diver put the helmet on his head. He breathed air through a forty-foot pipe that went from the helmet back to the diving bell. This was Halley's diving suit. (PAUSE ON TAPE)

The diving suit worked so well that it was not changed for almost one hundred and fifty years.

So you see, Edmond Halley was a talented, creative man. We remember him because of Halley's Comet, but during his lifetime he invented many things. For use underwater, two of his inventions were: the diving bell and the diving suit. (LAST PAUSE ON TAPE.)

Comprehension Questions:

1. Halley invented a diving bell and a diving suit. What were these two inventions used for?

2. What does the word "salvage" mean? Can you give an example of a salvage effort in the present day?

3. How did Halley keep the diving bell full of air and free of water?

4. Describe Halley's diving suit. How was it different from the diving bell?

5. Was the diving suit practical to use? How do you know?

APPENDIX D

SESSION FOUR INTERVIEWER GUIDE

I. WARM UP (8-10 minutes)

(Ask the student the following questions in Spanish:)

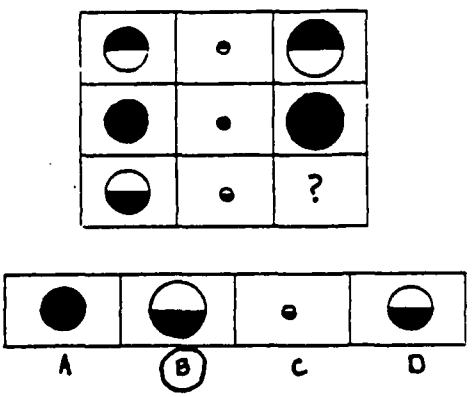
Do you think that the ESL classes help you? What are you learning that is most useful? What is least useful?
What would help you that you're not getting now?

What advice would you give your teacher about how a person learns English?
What advice would you give a new ESL student?

II. TRANSITION (5 minutes)

Now I'm going to give you a problem to read aloud and solve. I want you to think aloud as you solve the problem. It's a logic problem, like you did in the training session. This is so you can warm up to thinking aloud. Turn to page __ in your workbook and solve the problem, remembering to say aloud all the thoughts that go through your mind as you work. It doesn't matter if you get the correct answer or not. I'm interested in what you think about as you solve this problem.

(Have the student turn to page __ in his workbook and prompt him with "What are you thinking?" if he falls silent too long. He has been given the following logic problem. Remember to have him critique his own think aloud for completeness. Then turn to the next page in this guide and begin VERBAL REPORT.)



III. VERBAL REPORT SESSION

Activity 1: Listening to a Lecture (Regions of the World) (15 minutes)

(This lecture is about the Regions of the World. Say the following:)

Okay, our first activity today is a lecture on regions of the world. You will hear bells on the tape. At each bell, I'll shut off the tape recorder and ask you what you're thinking. Remember, I'm interested in knowing what you do to help youreself understand the English you hear. Are you daydreaming? Are you remembering other lectures you've heard? Are you getting a mental picture of something? Whatever you're thinking about as you listen, I want you to tell me. After the tape is finished, I'll ask you some questions. Turn to page __ in your workbook and read the introduction to the lecture.

(Have the student turn to page __ in his workbook and read the intro. Say the following:)

Before I start the tape, can you tell me <u>what you're thinking about</u>?

(Start the tape. Stop at each bell and ask the <u>general probing questions</u> listed below. On the next pages of this guide, concurrent with the script of the lecture, are <u>specific probing questions</u> for the various sections of the lecture. Ask them as well, if the student does not answer them in his think aloud.)

<u>General Probing Questions:</u>

What are you thinking about?

Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

...General Probes are continued on the next page...

The complete script, for showing to the student, is on pg. 28 in this guide.

General Probes (continued):

When you listen, do you listen for isolated words, groups of words, whole sentences or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream? What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the lecture, with its pauses, and specific probes for each part:

REGIONS OF THE WORLD:

Today you're going to hear about the regions of the world. Regions are areas of the world that are alike in some ways. These areas have similar kinds of plant and animal life. Because of the way the sun's rays shine on the earth, all places do not get the same amount of heat or light. This means that different places have different temperatures: some regions are hot all year while others are cold. Some are dry and some are wet.

The earth can be divided into many regions. Today you will hear a little about five regions: tropical regions, polar regions, the desert regions, and grasslands, and the middle forest regions. (PAUSE ON TAPE)

Specific Probes for This Section:

Did you hear the word "forest" in this lecture? What did you think when you heard the word? Did you know what it meant?

How are regions defined in this lecture? What makes for a region?

Let's begin with the tropical regions of the world. There are three great wet tropical regions: one is in South America, one is in Africa, and one is in Asia. These regions are warm all year. They generally lie between the Tropic of Cancer and the Tropic of Capricorn, where the sun is directly overhead all year. In the tropics, it rains almost every day. However, the storms do not last long. Most parts of the tropical regions are covered thickly with plants. This plant cover is called a tropical rain forest. Many different kinds of trees grow closely together in a rain forest. Hanging from the trees are other plants, such as orchids or vines. Trees in a tropical rain forest stay green all year. Their leaves do not change color and fall off. (PAUSE)

(Specific Probes for this Section are on the next page...)

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the lecture, with its pauses, and specific probes for each part:

Specific Probes for The Section on the Previous Page:

Did you hear the phrase "hanging from the trees are other plants, such as orchids or vines"? What did you think when you heard this phrase? Did you know what it meant?

Can you define what is meant by the phrase "plant cover"? Did you hear this phrase in the lecture?

What is one major characteristics of a tropical region?

In contrast to the tropical regions are the polar regions of the world. These are places north of the Arctic Circle and south of the Antarctic Circle. Polar regions are cold all year long. The sun's most direct rays never shine on polar regions. In the middle of winter the sun does not shine there at all. Summers are very short and not very warm. Needless to say, life in the polar regions is very difficult. (PAUSE)

Specific Probes for This Section:

Did you hear the phrase "needless to say" in this lecture? What did you think when you heard the phrase? Do you know what it means? What purpose does it serve in this paragraph?

How are polar regions different from tropical regions?

Now let's look at the third major region of the earth: the deserts. One important feature of a desert region is that little rain falls there. Another feature is its temperature. Desert regions have the highest temperatures of any region on the earth. The highest temperature recorded was 136 degrees F. in the Sahara, which is the largest desert in the world. However, contrary to what you may think, most deserts are not just endless stretches of sand. Some desert areas are rocky or mountainous. Some are very hot all year, but others have a very cold winter. Still other deserts have frost in the night and temperatures over 90 degrees during the day. As you can see, in one day the temperature range in the desert can be very great. (PAUSE)

(Specific Probes for This Section are on the next page)

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the lecture, with its pauses, and specific probes for each part:

Specific Probes for the Section on the Previous Page:

Did you hear the phrase: "Contrary to what you may think, most deserts are not just endless stretches of sand" ? What did you think when you heard this phrase, can you remember? Do you know what it means?

Did you hear the phrase "Still other deserts have frost in the night and temperatures over 90 degrees during the day"? What did you think when you heard this phrase, can you remember? Do you know what it means? What is frost?

The fourth region of the world you're going to hear about is the grassland region. Areas of grasslands can be found on every continent except Antarctica. Most grasslands lie between very dry lands, such as deserts, and forestlands, which get plenty of moisture. Grasslands in different parts of the world have different climates. For example, in North America, grasslands have very cold winters. In East Africa, the grasslands are in the tropics where the weather is warm all year long. Many animals live in the grasslands. In the early days of the United States, great herds of buffalo roamed the grasslands, eating the grass. In Australia, the most familiar grassland animal is the kangaroo. But Africa has more kinds of grassland animals than any other continent: some of the animals there are the gazelle, the lion, the ostrich, the elephant and the zebra. (PAUSE)

Specific Probes for This Section:

Did you hear the sentence in this lecture: "In the early days of the United States, great herds of buffalo roamed the grasslands, eating the grass." What did you think when you heard this sentence, can you remember? Do you know what it means?

Did you hear the word: "Kangaroo"? What did you think when you heard it, can you remember? Do you know what it means?

Which grassland area has more kinds of animals than any other? Can you name some of the animals found in this grassland area?

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the lecture, with its pauses, and specific probes for each part:

The last region you will hear about is the middle forest region. This region covers less then one-tenth of the world's land. Nevertheless, nearly half of the world's population lives in a middle forest region. These regions have many broadleaf trees, such as the oak tree or the elm. These trees lose their leaves in the autumn. They bud, or grow new leaves, in the spring. Because middle forest regions have seasons such as spring and autumn, they are neither warm or cold all year. Most get 30-60 inches of precipitation in one year, such as rain, sleet or snow. Mid-forest regions are generally rich in natural resources, such as trees, rivers, animals, rich soil for growing food, and many types of minerals. (PAUSE)

Specific Probes for This Section:

Did you hear the phrase: "They bud, or grow new leaves, in the spring"? What did you think when you heard the phrase, can you remember? Did you know what it meant?

Did you hear the word "precipitation"? What does it mean? What did you think when you heard the word, can you remember?

What happens to the trees that live in a middle forest region? How are they different from the trees that grow in a tropical region?

In conclusion, you have heard about five regions of the world: tropical regions where it is hot and wet; polar regions where it is very cold; deserts where very little rain falls and it is very hot; grasslands where animals graze; and middle forest regions where most of the world's population lives. Which region of the world were you born in? Which region of the world are you living in now? Which region would you like to live in? (PAUSE)

(no special probes for this section. Ask only the general ones.)

(When the lecture is completely over, say the following:)

Is there anything else that went through your mind during this lecture that you didn't mention? Do you have any questions about what you heard? Okay, let's go on to the next activity, which is a dictation.

(YOU turn to page 30 in this guide and make the introduction to the dictation activity. The script for the lecture on Regions of the World in its complete form (if you want to show it to the student) is provided on the next two pages of this guide. The comprehension questions the student is expected to answer are listed below.)

Regions of the World Comprehension Questions:

1. Name 2 characteristics of the tropical regions of the world.

   (Generally lie between the Tropic of Cancer and the Tropic of Capricorn; the sun is directly overhead all year; It rains almost every day; have trees that do not change color but stay green all year)

2. Where in the world are the polar regions located?

   (North of the Artic Circle and South of the Antarctic Circle)

3. Name 2 important features of the desert regions of the world.

   (Very little rain falls; has the highest temperatures of any region on earth)

4. What is the one continent in the world where grasslands are NOT found?

   (Antarctica)

5. In what region of the world is nearly half of the world's population living? Why do you think this is so?

   (In the middle forest regions, because this region is abundant in trees, rivers, moderate climate, rich soil for growing plants, etc.)

6. In which region of the world would you like to live? In which region of the world would you NOT want to live?

Complete Script for the Regions of the World Lecture:

Today you're going to hear about the regions of the world. Regions are areas of the world that are alike in some ways. These areas have similar kinds of plant and animal life. Because of the way the sun's rays shine on the earth, all places do not get the same amount of heat and light. This means that different places have different temperatures: some regions are hot all year while others are cold. Some are dry and some are wet.

The earth can be divided into many regions. Today you will hear a little about five regions: tropical regions, polar regions, the desert regions, the grasslands, and the middle forest regions. (PAUSE ON TAPE)

Let's begin with the tropical regions of the earth. There are three great wet tropical regions: one is in South America, one is in Africa, and one is in Asia. These regions are warm all year. They generally lie between the Tropic of Cancer and the Tropic of Capricorn, where the sun is directly overhead all year. In the tropics, it rains almost every day. However, the storms do not last long. Most parts of the tropical regions are covered thickly with plants. This plant cover is called a tropical rain forest. Many different kinds of trees grow closely together in a rain forest. Hanging from the trees are other plants, such as orchids or vines. Trees in a tropical rain forest stay green all year. Their leaves do not change color and fall off. (PAUSE ON TAPE)

In contrast to the tropical regions are the polar regions of the earth. These are places north of the Arctic Circle and south of the Antarctic Circle. Polar regions are cold all year long. The sun's most direct rays never shine on polar regions. In the middle of winter the sun does not shine there at all. Summers are very short and not very warm. Needless to say, life in the polar regions is very difficult. (PAUSE ON TAPE)

Now let's look at the third major region of the earth: the deserts. One important feature of a desert region is that little rain falls there. Another feature is its temperature. Desert regions have the highest temperatures of any region on earth. The highest temperature recorded was 136 degrees F. in the Sahara, which is the largest desert in the world. However, contrary to what you may think, most deserts are not just endless stretches of sand. Some desert areas are rocky, or mountainous. Some are very hot all year, but others have a very cold winter. Still other deserts have frost in the night and temperatures over 90 degrees during the day. As you can see, in one day the temperature range in the desert can be very great. (PAUSE ON TAPE)

(Script continued on next page in this guide)

Complete Script for the Regions of the World lecture:

The fourth region of the world you're going to hear about is the grassland region. Areas of grasslands can be found on every continent except Antarctica. Most grasslands lie between very dry lands, such as deserts, and the forestlands, which get plenty of moisture. Grasslands in different parts of the world have different climates. For example, in North America, grasslands have very cold winters. In East Africa, the grasslands are in the tropics where the weather is warm all year long. Many animals live in the grasslands. In the early days of the United States, great herds of buffalo roamed the grasslands, eating the grass. In Australia, the most familiar grassland animal is the kangaroo. But Africa has more kinds of grassland animals than any other continent: some of the animals there are the gazelle, the lion, the ostrich, the elephant, and the zebra. (PAUSE)

The last region you will hear about is the middle forest region. This region covers less than one-tenth of the world's land. Nevertheless, nearly half of the world's population lives in a middle forest region. These regions have many broadleaf trees, such as the oak tree or the elm. These trees lose their leaves in the autumn. They bud, or grow new leaves, in the spring. Because middle forest regions have seasons such as spring and autumn, they are neither warm or cold all year. Most get 30-60 inches of precipitation in one year, such as rain, sleet or snow. Mid-forest regions are generally rich in natural resources, such as trees, rivers, animals, rich soil for growing food, and many types of animals. (PAUSE ON TAPE)

In conclusion, you have heard about five regions of the world: tropical regions where it is hot and wet; polar regions where it is very cold; desert regions where little rain falls and it is very hot; grasslands where animals graze, and middle forest regions where most of the world's population lives. Which region of the world were YOU born in? Which region of the world are you living in now? Which region would you <u>like</u> to live in? (PAUSE)

(The dictation activity begins on the next page in this guide.)

Activity 2: Dictation (15 minutes)

(You will read the dictation to the student ONCE at a normal pace. Then you will ask him to think aloud. Then you will dictate it slowly enough for him to write and think aloud as he goes along. Then you will ASK HIM IF HE WANTS YOU TO READ THE DICTATION AGAIN OR GO ON TO THE NEXT ACTIVITY. Say the following:)

Our second activity is a dictation, as in our first session together. I'm going to read it once through quickly and you just listen. Then I'll ask you to say what you're thinking about, what occurred to you as you listened. Then I will read the dictation once again and you will fill in the missing words. The first and last lines of the dictation are written in for you. You'll write the middle part. As you write, I'd like you to say what is going through your mind, words you're not sure of and how you're figuring them out, memories you have, pictures you form, daydreams that you have, whatever you think about as you listen and write. The important thing here is not whether you can write the dictation perfectly. I'm interested in what you <u>think</u> as you do this dictation.

Turn to page __ in your workbook. That's where you will write the dictation. Notice that the first and last lines are written in for you. You will write everything in between. Okay?

(Have the student turn to page __ in his workbook. Then read the following at a normal pace. Stop the student if he tries to write.)

If you are a student under the age of 20, it is entirely possible that each of the following things could come true for you. For example, you might live to be at least 120 years old. By the time you are 50, you may be able to decide that you'd like to be frozen

and thawed out in the 22nd century, so that you could live then.

Your children may never go to school; they'll learn all they need to know through your home computer. Computerized robots and automatic systems will take care of every physical need.

(Then say the following:)

That's the dictation. What are you thinking about? How did you make sense of what you just heard?

Were there a lot of words you didn't know? What did you think and do when you heard these words?

When you listened, did you listen to isolated words, groups of words, whole sentences or ideas? By this I mean, did you listen word-by-word, or in larger pieces? If you listened in larger pieces, what determined the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

Is there anything else that went through your mind that you haven't mentioned?

Okay, now I'm going to read the dictation again and you will write. I'm going to pause every so often and ask you what you're thinking and how you're going about writing what you hear. Try to tell me as much as you can of what has been going through your mind. Ready?

"If you are a student under the age of 20, it is entirely possible that each of the following things could come true for you. For example, (COMMA)// you may live to be // at least 120 years old. (PERIOD)// (PAUSE FOR THE STUDENT TO THINK ALOUD) By the time you are 50 (COMMA),// you may be able // to decide that you'd like // to be frozen // and thawed out // in the 22nd century (COMMA), // so that you could live then (PERIOD). (PAUSE FOR THE STUDENT TO THINK ALOUD). Your children // may never go to

school (SEMI-COLON); // they'll learn // all they need to know // through your home computer (PERIOD). (PAUSE FOR THE STUDENT TO THINK ALOUD) Computerized robots and automatic systems will take care of every physical need. (PAUSE FOR THE STUDENT TO THINK ALOUD - this sentence is already written in their workbook but they might have something to say about having listened to it.)

(Observe the student as he writes: does he check his own work as he goes along? Does he look at other parts already written? Does he hesitate over certain words? Ask him questions about behavior you observe, saying "I noticed you were unsure of how to write "X" word. What were you thinking then? Were you deciding between various spellings or what?" OR "I noticed you were corrected yourself just then. What did you think of, that made you do that? Did you hear the sounds in your head or see that you'd spelled the word wrong?" In other words, try to ask questions specific to certain behaviors you observe. Then say the following:)

Would you like me to read the dictation one last time or shall we go on to the next activity?

(If the student wants to hear it again: why? What will he be listening for? Tell him you're going to pause in the same places as before for him to say what's gone through his mind. If he doesn't want to hear it again, go on to the next activity, which begins on page 34 in this guide. If he does want to hear it again, read what's below:)

"If you are a student under the age of 20, it is entirely possible that each of the following things could come true for you. For example (COMMA), you may live to be at least 120 years old (PERIOD) (PAUSE FOR STUDENT TO THINK ALOUD) By the time you are 50 (COMMA), you may be able to decide that you'd like to be frozen and thawed out in the 22nd century (COMMA), so that you could live then (PERIOD). (PAUSE FOR THE STUDENT TO THINK ALOUD) Your children may never go to school (SEMI-COLON); they'll learn all they need to know through your home computer (PERIOD). (PAUSE FOR THE STUDENT TO THINK ALOUD) Computerized robots and automatic systems will take care of every physical need. (PAUSE FOR THINK ALOUD)

(The next page in this guide has some suggestions of probes you might use.)

Possible Probes You Might Use:

I noticed that you changed "X" thing. Why did you do that? What did you hear this time that you didn't hear the first time? Were you listened for that in particular?

You didn't change anything. Did you think anything new or different when you heard the dictation this time?

What is still unclear to you? Can you tell me what you'd listen for if I read the dictation to you again?

Hearing the dictation again: did you listen in the same way as the other times? Was it word-by-word, phrases, or entire sentences? Did you translate parts or the whole thing or nothing into Spanish?

Is there anything you'd like to add to what you told me? Other thoughts that went through your mind that you haven't mentioned?

Would you like to see the dictation in its entirety? What will you be looking for, if the answer is yes?

(The next activity begins on the next page in this guide. Below is the complete script of the dictation, if the student would like to see it.)

Script of the dictation:

If you are a student under the age of 20, it is entirely possible that each of the following things could come true for you. For example, you may live to be at least 120 years old. By the time you are 50, you may be able to decide that you'd like to be frozen and thawed out in the 22nd century, so that you could live then. Your children may never go to school; they'll learn all they need to know through your home computer. Computerized robots and automatic systems will take care of every physical need.

Activity 3: Listening to a Story (The Jackal that Fell in a Dyer's Vat)

(Say the following):

Now you're going to hear a story called: The Jackal that Fell in a Dyer's Vat. What does that title make you think? Do you know any of the words in the title? Don't panic, the introduction in your workbook explains what the title means.

There will be 7 pauses on the tape. I'll ask you what you're thinking after each pause. I'm interested in hearing if there were words you didn't know, any pictures you formed in your mind, points of confusion that you had, where you daydreamed or didn't understand what was being said, things like that.

Okay, open your workbook to page __ and read the introduction there. Then I'll play the tape.

(Have the student turn to page __ in his workbook and read the introduction there. Then ASK HIM WHAT HE IS THINKING.)

(Then start the tape. Each time you stop the tape, ask the general probing questions below. On the next pages in this guide is the script of the story, which specific probing questions for each part. Ask them as well, if the student does not answer them in his think aloud.)

(The complete script of the story is on page 36 in this guide, in case the student wants to see the written word.

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the story, with its pauses, and specific probes for each part:

One day, by accident, a jackal fell into a vat of blue dye. His coat of fur became blue. The other animals thought that the blue was a very royal color and they made the jackal their king. They worshipped the jackal as a king. They did not see that he was just a plain jackal who had fallen into a dyer's vat. "We have never seen his like before," they said. (PAUSE ON TAPE)

Specific Probes for This Section

Did you hear the phrase "THey worshipped the jackal as a king."? Can you remember what you thought when you heard the phrase? Did you understand what it meant?

Did you hear the phrase "We have never seen his like before, they said"? Can you remember what went through your mind when you heard the phrase? Did you understand what it meant?

Can you summarize this paragraph in your own words?

Our jackal was now called by the name of All-Blue. He did not want the animals to know his brother jackals. He was afraid that they would find out that he was not a king at all. So he ordered that no jackal was allowed to enter his court. Nor could the jackals enter the forest close by. (PAUSE ON TAPE)

Specific Probes for This Section:

Why was the jackal called All-Blue?

Did you hear the sentence "nor could the jackals enter the forest near by"? Can you remember what you thought when you heard the sentence? Did you understand what it meant?

An old jackal saw what was happening to his brother jackals. This old jackal said: "Don't be sad. All-Blue forces us to be revenged."

"Revenge is easier said than done," said another jackal. "Where are we going to live now? In the town, which is full of dogs? They will kill us. All-Blue has all the animals in the town on his side. We have no way to pay him back for this wrong. We have no revenge." (PAUSE)

Specific Probes for This Section:

Did you hear the word "revenge"? The phrase "Revenge is easier said than done"? Can you remember what you thought when you heard the phrase? Did you understand what it meant?

Did you hear the phrase "We have no way to pay him back"? What did you think when you heard the phrase? Do you know what it means?

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

Script of the Story, with its pauses, and specific probes for each part:

The old jackal was not worried. He said: "I have a plan."

'Can you not see that the lion, the tiger, and the rest of the animals that worship All-Blue are deceived by his appearance? They listen to him as their king because they do not know he is just a jackal. So: we must do something to show them that he is nothing but a jackal. Here is my plan." (PAUSE ON TAPE)

Specific Probes for This Section:

Did you hear the word "deceived" in this lecture? ("Deceived by his appearance") Can you remember what you thought when you heard the word? Do you know what it means? What are the animals "deceived about"?

What did you think when you heard the sentence "Here is my plan."?

"We will go together," the old jackal said, "and howl where he can hear us. We will howl and howl. And I promise you, the nature of our race will force All-Blue to howl. For it is said:

Hard it is to conquer nature: if a dog were made a king
Mid the coronation trumpets, he would gnaw at his shoe string." (PAUSE)

Specific Probes for This Section:

Did you hear the word "howl" in this lecture? Can you remember what you thought when you heard it? Do you know what it means?

The Old jackal says two lines of a poem. The poem begins, "Hard it is to conquer nature." What did you think when you heard this? How about the phrase in the poem "Mid the coronation trumpets"? Do you know what that means?

Did you hear the word "gnaw" in this lecture? Can you remember what you thought when you heard it? Do you know what it means?

General Probing Questions: (To be asked after each pause)

What are you thinking about? Was that difficult to understand? What didn't you understand?

Were there words you didn't know? What was your reaction to hearing an unfamiliar word? What did you think? What did you do?

When you listen, do you listen for isolated words, groups of words, whole sentences, or ideas? By this I mean, do you listen word-by-word, or in larger pieces? If you listen in larger pieces, what determines the size of the piece?

Were you translating what you heard into Spanish as you went along or just listening to the English? If you were translating, was it isolated words or groups of words or whole sentences?

Did anything trigger a visual? A sound? A daydream?

What confused you?

Is there anything else that went through your mind that you haven't mentioned?

The script of the story, its pauses, and specific probes for each part:

The old jackal also said: "When the other animals see that All-Blue is just a jackal, they will be angry. They will be angry because he has deceived them. They will kill him." (PAUSE)

Specific Probes for This Section:

Did you hear the word "deceived" this time? What did you think when you heard it?

And so: The jackals did exactly what the old jackal said. They went to the court and howled in the way that only jackals do. All-Blue, being a jackal, howled as well. When he threw back his head and howled, the other animals saw the truth: that he was a jackal and not a king.

The moral of this story is very simple:

Your nature is a thing you cannot beat
It serves as guide in everything you do;
Give doggy all the meat he needs to eat
He still cannot help gnawing at a shoe. (LAST PAUSE ON TAPE.)

Specific Probes for This Section:

Can you restate the moral of the story in your own words?

Did you hear the phrase "it serves as guide in everything you do"? What did you think when you heard that line, can you remember?

Did you hear the phrase "he still cannot help gnawing at a shoe"? Did you hear the word "gnawing"? What did you think when you heard the word, can you remember?

(This is the last activity in the last session. Thank the student for his very valuable contribution to our study.)

The complete, uninterrupted script of this story is on the next page in this guide, should the student want to see the written word.)

THE JACKAL THAT FELL IN A DYER'S VAT

One day, by accident, a jackal fell into a vat of blue dye. His coat of fur became blue. The other animals thought that the blue was a very royal color and they made the jackal their king. They worshipped the jackal as a king. They did not see that he was just a plain jackal who had fallen into a dyer's vat. "We have never seen his like before," they said. (PAUSE)

Our jackal was now called by the name of All-Blue. He did not want the animals to know his brother jackals. He was afaraid that they would find out he was not a king at all. So he ordered that no jackal was allowed to enter his court. Nor could the jackals enter the forest close by. (PAUSE)

An old jackal saw what was happening to his brother jackals. This old jackal said: "Don't be sad. All-Blue forces us to be revenged."

"Revenge is easier said than done," said another jackal. "Where are we going to live now? In the town, which is full of dogs? They will kill us. All-Blue has all the animals in the town on his side. We have no way to pay him back for this wrong. We have no revenge." (PAUSE)

The old jackal was not worried. He said: "I have a plan. Can you not see that the lion, the tiger, and the rest of the animals that worship All-Blue are deceived by his appearance? They listen to him as their king because they do not know he is just a jackal. So: we must do something to show them that he is nothing but a jackal. Here is my plan." (PAUSE)

"We will go together," the old jackal said, "and howl where he can hear us. We will howl and howl. And I promise you, the nature of our race will force All-Blue to howl. For it is said:

> Hard it is to conquer nature: if a dog were made a king
> Mid the coronation trumpets, he would gnaw at his shoe string. (PAUSE)

The old jackal also said: "When the other animals see that All-Blue is just a jackal, they will be angry. They will be angry because he has deceived them. They will kill him." (PAUSE)

And so: The jackals did exactly what the old jackal said. They went to the court and howled in the way that only jackals do. All-Blue, being a jackal, howled as well. When he threw back his head and howled, the other animals saw the truth: that he was a jackal and not a king.

The moral of this story is very simple:

> Your nature is a thing you cannot beat
> It serves as guide in everything you do;
> Give doggy all the meat he needs to eat
> He still cannot help gnawing at a shoe. (PAUSE)

APPENDIX E

SPANISH QUESTIONS USED IN STUDENT THINK ALOUD TRAINING

HISTORY

1. Cervantes vivió y escribió en el siglo...

   a. XIX
   b. XVIII
   c. XX
   d. XIII
   e.* XVI

2. España sostiene una disputa en unos siglos con Inglaterra sobre...

   a. Marruecos
   b.* Gilbraltar
   c. la isla de Malta
   d. las Islas Baleares
   e. Curacao

3. La famosa entrevista entre Bolívar y San Martín tuvo lugar en...

   a.* Lima
   b. Caracas
   c. La Paz
   d. Guayaquil
   e. Bogotá

4. Los mayas sobresalieron en el campo de...

   a. la pintura
   b.* la astronomía
   c. la agronomía
   d. la navegación
   e. la arquitectura

5. La última gran batalla que selló para siempre la independencia de las colonias americanas de España fue la de...

   a.* Ayacucho
   b. Chacabuco
   c. Maipo
   d. Jurún
   e. Chiquinquirá

6. El Siglo de Oro de las artes españoles fue el siglo...

   a. V
   b. VIII
   c. XX
   d.* XVI
   e. XIII

Ciencia

1. ¿Cuál de las siguientes oraciones se refiere correctamente al proceso de fotosíntesis?

   a. Es llevada a cabo por todas las plantas acuáticas.
   b. El oxígeno es necesario para que el proceso ocurra.
   c.* La luz es necesaria para que ocurra el proceso.
   d. Durante este proceso se libera bioxido de carbono.
   e. El proceso tiene un efecto germicido en aguas contaminadas.

2. Las moléculas de alimento son descompuestas por...

   a.* las enzimas
   b. los lisosomas
   c. el citoplasma
   d. el mitocondrio
   e. los pseudópodos

3. El número de átomos de hidrógeno en $C_2H_5COCH_3$ es...

   a. 2
   b.* 8
   c. 5
   d. 10
   e. 3

4. Un buen conductor de electricidad es...

   a. madera
   b. cristal
   c. ladrillo
   d. plomo
   e.* cobre

5. ¿Cuál de las siguientes NO es una característica de los insectos?

   a. tres partes del cuerpo bien definidas
   b. tráqueas como aparato respiratorio
   c.* cefalotórax
   d. seis patas
   e. antenas articuladas

6. Un producto secundario de la respiración humana y animal es...

   a. oxígeno
   b. N_2
   c.* CO_2
   d. compuestos nitrogenados
   e. O_2

Ciencia (continued)

7. ¿Cuál de los siguientes es un arácnido?

   a. la esperanza
   b.* el escorpión
   c. el cienpiés
   d. el camarón
   e. el cangrejo

8. La larva es al mosquito como el gusano es a(l)...

   a. la larva
   b. la pupa
   c. mosquito
   d.* la mosca
   e. adulto

9. El término simbiosis significa...

   a. proceso de limpieza
   b. representación por símbolos
   c. un sistema de comunicación
   d.* patrones de vida de interdependencia
   e. remoción de parásitos.

GEOGRAFIA

1. El único país de la América del Sur con puertos en el Atlántico y el Pacífico es...

   a. Venezuela
   b. Chile
   c. Uruguay
   d. Argentina
   e.* Colombia

2. La república más grande de la América Central es...

   a. Honduras
   b.* Nicaragua
   c. Guatemala
   d. Panamá
   e. El Salvador

3. Tienen frontera común...

   a. el Ecuador y Bolivia
   b.* Venezuela y Colombia
   c. El Uruguay y el Paraguay
   d. Costa Rica y el Salvador
   e. Guatemala y Nicaragua

Geografía (continued)

4. De estas ciudades, todas son capitales de país menos...

   a. Asuncion
   b.* Barranquilla
   c. Managua
   d. Tegucigalpa
   e. Lima

5. ¿Cuál de los siguientes paises NO está en la América del Sur?

   a. Chile
   b. Colombia
   c.* Panamá
   d. Ecuador
   e. Guyana

6. Una montaña famosa del Ecuador es...

   a.* el Cotopaxi
   b. el Acoricagua
   c. Ixtaccíhuatl
   d. el Misti
   e. Popocatepetl

MATEMATICAS

1. Una tonelada de carbón cuesta $24. Calcule el costo de 3,000 libras. (1 tonelada = 2000 libras)

   a. 30
   b.* 36
   c. 38
   d. 40
   e. 48

2. En Santa Fe, los metros para estacionamiento de automóviles dicen: "12 minutos por 1¢. Depósito máximo 10¢." ¿Cuál es el máximo de tiempo que un conductor puede legalmente estacionar su automóvil en uno de estos metros?

   a. 12 minutos
   b. 1.2 horas
   c. 1 hora y 12 minutos
   d.* 2 horas
   d. 100 minutos

3. Pablo es dos veces más viejo que Juan. La suma de sus edades es 39 años. La edad de Pablo es...

   a. 10
   b.* 13
   c. 19
   d. 20
   e. 26

Matematicas (continued)

4. ¿Cuál de estas cantidades se aproxima más a 5% de 2,980?

   a. 75
   b. 90
   c.* 150
   d. 198
   e. 300

5. El ancho de un campo es tres veces su longitud. Si el perimetro (distancia alrededor del campo) es 72 pies, entonces la longitud del campo es...

   a.* 9 pies
   b. 12 pies
   c. 18 pies
   d. 27 pies
   e. 36 pies

6. Una biblioteca tiene 60 libros de biografías. Este número es 5% de todos los libros en los anaqueles. ¿Cuántos libros hay en la biblioteca?

   a. 57
   b. 63
   c. 120
   d. 300
   e.* 1200

7. Si un avión complete su vuelo de 1365 millas en 7 horas y 30 minutos, el promedio de la velocidad (en millas por hora) es...

   a. 180
   b. 181
   c.* 182
   d. 185
   e. 187

8. La proporción de hombres a mujeres en una reunión es 9:2. Si hay 12 mujeres en la audiencia, ¿cuál es la asistencia total?

   a. 33
   b. 44
   c. 54
   d.* 66
   e. 77

9. La mitad de los estudiantes que asisten al Colegio Buena Vista van a pie. Una cuarta parte del resto de la matrícula va en bicicleta. ¿Qué parte de la matrícula viaja por otros medios?

   a. 1/8
   b. 3/8
   c. 3/4
   d.* 1/4
   e. 5/8

Cultura

1. "Pelar la para" es costumbre de...

   a. los gitanos
   b. los ladrones
   c. los campesinos
   d. los carniceros
   e.* los jóvenes

2. La Verbena de la Paloma, la Gran Vía, y La Dolores son...

   a. tonadillas
   b.* zarzuelas
   c. calles
   d. parques
   e. canciones

3. A Media Luz, El Chocho, Queja Pampera son...

   a. cuecas
   b. pericones
   c. zapateados
   d.* tangos
   e. valses

4. Las Posadas se cantan empezando...

   a. el 16 de febrero
   b. el 16 de marzo
   c. el 16 de septiembre
   d.* el 16 de diciembre
   e. el 12 de abril

5. Un instrumento músico típico de la América Central es...

   a. la quena
   b. la bocina
   c.* la marimba
   d. el clarín
   e. el arpa

6. El "Himno de Riego" es un canto nacional de...

   a. la Argentina
   b. Venezuela
   c. Cuba
   d.* España
   e. el Perú

APPENDIX F

ORIGINAL STUDENT QUOTES IN SPANISH

#1: Acordeme de lo pensando yo creo que es cuando el señor llega a salir de aquí (talking about the maintenance man) entonces cuando los ruidos me molestaron y no me dejaron concentrarme bien. Entonces cuando ella dijo eso, como que tomé más interés para entenderlo. Eso es lo que estaba pensando. Me estaba diciendo ahora mismo que pusiera más atención.

[Student #1, Female, Session II]

#2: Me quedé pensando en lo que había dicho antes y mientras ella estaba adelante yo estaba atrás. Después dije, olvídate, y seguí para adelante.

[Student #2, Female, Session I]

#3: Estaba pensando en lo que he estudiado antes en ciencias sociales. (Student elaborates about what she remembers.) No puse mucha atención por estar pensando en eso todo. Y después comencé a poner atención y me concentré en eso.

[Student #1, Female, Session I]

#4: Eso fue lo único que puse atención. Porque lo demás no, no estaba pensando, no estaba poniendo atención en eso. (Interviewer: ¿Por las palabras o por el cuento? ¿Las ideas? ¿Fue un poco bobo? ¿Porque?) Tal vez sí. Creo que no me llamó el cuento. (Interviewer: En cambio el otro (cuento) sí porque es...) Sí, me interesó.

[Student #3, Male, Session II]

#5: [Note: Student and interviewer both speak in English.] Listening for whole sentences. (Int: How big?) One line long? (Int: How do you know?) Because there are some, when you are talking there is some punctuation that you have to stop a little bit and then keep going.

[Student #4, Male, Session III]

#6: (Int: Listening for exact words or for phrases?) No, for phrases. Que las uno y entonces averiguo más o menos.

[Student #2, Female, Session III]

#7: (Int: Word for word or...?) No, I'm listening for the phrase.

[Student #4, Male, Session III]

#8: (Int: ¿Palabra por palabra o frases?) Oraciones? Yo escucho siempre oraciones, o sea, una oración.

[Student #9, Male, Session I] [Note: Student #9 was an effective listener who attended only 2 data collection sessions. He contributed many useful insights about listening to and learning English, but was not included in the quantitative data analysis because he only attended two sessions.]

#9: (Int: Do you listen for words or whole phrases?) Escucho todas las palabras pero hay algunas que a veces las siento raras y entonces no me acuerdo y a veces sí. Y voy asociando las palabras y a veces a otras doy lógica de lo que quiere decir.

(Student #5, Female, Session III)

#10: Bueno, primero escuchaba cada palabra que estaba diciendo, la captaba pero no digamos todas.

(Student #6, Male, Session I)

#11: (Int: ¿Por palabras, frases o el sentido?) Palabras.

(Student #7, Male, Session I)

#12: Me concentro en las palabras más difíciles y también en la oración.

(Studen #6, Male, Session I)

#13: Esa, una palabra allí creo que, me imagino que debe ser caparazon. O algo así de la tortuga. Cuando dijo que caía sobre su caparazon, quería alcanzar la fruta y caía sobre su.... ¿cuál era? ¿Cuál es?

(Student #3, Male, Session III)

#14: St: Me imaginé el cometa.
Int:¿Has leido algo sobre el cometa?
St: Ese cometa no. Solo cuando estaba en la escuela nos enseñaban definiciones de cometas y así del espacio.

(Student #5, Female, Session III)

#15: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

#16: Bueno, he visto películas, pero una vez éste mi padrastro por poco se ahoga porque uno de los donde estaba trabajando, la República Dominicana, parece que se le apagó la bomba de aire. Y tuvo que subir en seguida. Y me acuerdo de las historias.

(Student #2, Female, Session III)

#17: Dice que es una campana y yo no creo que el traje en si lleve una campana. Confuso.

(Student #1, Female, Session III)

#18: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #3, Male, Session III)

#19: En este pedacito sí que me perdí, como la Germany le va a pagar a Estados Unidos. Que esta Estados Unidos y.... England le debe. Como... ah! Ya entendí, fue por el Volkswagen. Como ellos lo van a vender acá, gana más dinero, y entonces con ese dinero Volkswagen va a hacer como una rectificación por todo ese dinero que ellos perdieron.

(Student #2, Female, Session I)

#20: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

#21: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

#22: Su problema era como mantener el aire dentro de la campana. El utilizó este, cogió unos, yo no sé como se llamaran, unos, unos tubos llenos de aire que impedía éste que él, cada vez que ellos pasaban más, él abría más la válvula de aire... para que el agua se mantuviese afuera con el aire adentro.

(Student #2, Female, Session III)

#23: Cada vez que él iba bajando, él va abriendo la válvula la que el agua no entrara y el aire no saliera.

(Student #2, Female, Session III)

#24: Estaba pensando qué quería decir eso "chewing betl -- betl nut." Y como cada vez que lo repetía trataba de ver que era lo que decía, como se pronuncia. No creo que sea chickle, puede que algun tipo de planta. Algo así. Como aquí hay algunos que mastican tabaco.

(Student #3, Male, Session I)

#25: No entendí lo, lo que él utilizaba pero, como yo he visto esos suits de ... se utiliza algo de plástico, se utiliza silicon para mantenerse y unas cuantas cosas más... y aceite, para que no sé...

(Student #2, Female, Session III)

#26: Primero de todo busco palabras que no conozco. Para esas palabras que no conozco, entonces yo miro el significado de esas palabras y conforme a ese significado, miro lo que quiere decir la historia. Después de que haga eso voy entendiendo de que va acerca la historia.

(Student #9, Male, Session I)

#27: Pero cuando no sé una (palabra), pues éso es más difícil entender... cuando leo el principio y el final así, entonces me ayuda a comprender una palabra.

(Student #1, Female, Session I)

#28: Pero si es demasiado difícil la historia, como le dije, voy escribiendo lo que entiendo y las palabras que no conozco, yo las escribo en español. De allí regreso de vuelta a la historia a donde estén las palabras. Las subrayo para no equivocarme, las busco el significado y pasarlas en otro papel en limpio. Para poderme quedar bien... lo reviso bien. Para saber si todo lo que está escrito tiene sentido. Porque si es algo que yo he escrito que no tiene sentido, se van a reír de mí.

(Student #9, Male, Session I)

#29: Lo dejo pasar y pienso en lo demás y si me puede recordar de vuelta, o sea, me trato de grabar la palabra pero sigo con la lectura. Entonces le entiendo lo otro y después si recuerdo, vuelvo detrás a la palabra. A ver si entiendo.

(Student #9, Male, Session I)

#30: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

#31: Hay veces que hay palabras que yo sé, pero hay veces que solo sé lo que quiere significar pero ya pasarlas al español se me hace un poco difícil. Cuando las entiendo solo en inglés me quedo así. No intento traducirlas al español o sino que me quedo así - solo sé que es lo que quiere decir pero al español se me hace difícil. Y hay otras que sé que sé en español.

(Student #5, Female, Session III)

#32: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

33: Estaba pensando cuando lo primero que leyó fue de la guerra. Había tardado hasta dos años pero no estaba segura de lo que dijo, porque dijo "the war lasts"? Algo así. Como "lasts" es lo último, ¿verdad? Entonces me confundió. Y estaba tratando de pensar si era terminar o duro.

(Student #1, Female, Session I)

#34: (Note: Transcript that appears in the text is verbatim. Student was speaking in English.)

(Student #4, Male, Session III)

#35: Bueno, creo porque no sabía si era una cosa o... no sé. Porque cuando la escuché, inclusive cuando la escuché no sabía también cómo decirla. Entonces no sabía ni como se escribía ni con que letra empezaba. Entonces no, no pude...

(Student #3, Male, Session I)

#36: Estaba pensando que, que los indios fueron que atacaron a estos, los...? Me recuerdo de la clase que tuvimos en ésta que di el semestre pasado y luego me recuerdo que allí llegaron los que atacaron a los colonistas y me acordé también, o sea, de que ellos... me confundí. Pensaba que era los British cuando ésto querían matar en la revolución. American revolución y eso que tuvieron esa guerra. Estoy pensando quién había sido que habían atacados los pilgrims. Me quede pensando, ¿qué? ¿Qué indios fueron?

(Student #4, Male, Session I)